

Amateur Radio Catalog • Winter '93/94



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AMATEUR ELECTRONIC SUPPLY[®] Inc.

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You know ICOM's philosophy: We listen before we build.

We designed the new IC-707 after we listened to thousands of new operators around the world. They told us they wanted ICOM quality, but in an easy-to-use radio with just the basic functions.

Easy, we said.

The IC-707 is built to ICOM's relentlessly high standards, without expensive "extras."

- It has easy to use push-button functions

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- An easy to hear front-mounted speaker for great audio in noisy environments
- It's easy to transmit—a stable 100W of output power is available at all times. In fact, after lab tests of "key down" operation for over 2 hours, the IC-707 was still at full power and within specifications
- Its compact design is great for easy-going mobile operations

- It's easy to transport, with a rugged metal case and solid internal construction

- And it's easy on your budget designed for anyone who wants to join a fascinating hobby with minimal investment in equipment.

IC-707. A basic radio designed for those who want the easiest introduction ever to ICOM performance and quality.

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All ham bands • 32 memory channels • Dual VFO • RIT • Noise blanker • Band stacking register
General coverage receiver • Scanning • 10dB preamp • 20dB attenuator • USB, LSB, CW, AM, FM (optional) • 13.8VDC • 0.16µV sensitivity • -6/-60dB selectivity • -70dB image rejection • 10Hz frequency resolution • 9.4 (w) x 3.7 (h) x 9.4 (d) • 9.0 lb.

ICOM America, Inc., 2380 116th Ave. N.E. Bellevue, WA 98004. All stated specifications subject to change without notice or obligations. All ICOM radios significantly exceed FCC regulations limiting spurious emissions. The ICOM logo is a registered trademark of ICOM, Inc. 707/77E2CAR93Y

Also available: the IC-77. Similar operating features, but alphanumeric display, channel tuning and cloning capability.

Experience the Quality

ICOM®

AMATEUR ELECTRONIC SUPPLY®

Condensed Listing of New Amateur Radio Equipment

AEA (AEA)	Reg	Sale
MM-3 Morse Machine Deluxe keyer	\$189.00	179 ⁹⁵
AC-1 12vdc 600ma adaptor	21.00	
DC-1 Cigarette lighter cord	7.00	

DATA CONTROLLERS

PK-88 RS-232 TNC controller	\$149.00	134 ⁹⁵
AC-1 12vdc 600 ma adaptor	21.00	
PC-Pakratt-88 IBM program for PK-88	49.00	
PK-232MBX Controller/int VHF/HF modem/FAX	399.00	319 ⁹⁵
PK-900 Multi-mode digital controller w/FAX	569.00	469 ⁹⁵
9600 bps modem card option for PK-900	75.00	
AC-4 12vdc 1A power supply	32.00	
AEA-FAX-900 PK-900/IBM FAX software	75.00	
COM Pakratt w/FAX C-64 program; PK-88/232	79.00	74 ⁹⁵
MacRATT w/FAX Macintosh prog; PK-88/232	69.00	64 ⁹⁵
PC-Pakratt II w/FAX IBM program; 88/232	69.00	64 ⁹⁵
PC-Pakratt for Windows/FAX IBM; 88/232	129.00	
Extra PK-232 to radio open ended cable	9.00	
IH CABLE PK-232 - Icom/Yaesu/Alinco HT ..	25.00	
IM CABLE PK-232 - Icom 8-pin mic cable	25.00	
IW CABLE PK-232 - Icom IC-W2A cable	25.00	
KA CABLE PK-232 - Kenwood 13-pin cable	30.00	
KH CABLE PK-232 - Kenwood HT cable	25.00	
KM CABLE PK-232 - Kenwood/Alinco 8-pin mic	25.00	
YM CABLE PK-232 - Yaesu 8-pin mic cable	25.00	
RS-232 Y cable	39.00	
Technical manual; PK-232	25.00	
AEA-FAX II Facsimile & wire photo program ..	149.00	99 ⁹⁵
PCB-88 IBM compatible plug-in packet adapter ..	179.00	164 ⁹⁵
DSP-1232 Single port multi-mode controller ..	789.00	699 ⁹⁵
DSP-2232 Switchable ch multi-mode controller ..	999.00	899 ⁹⁵

ANTENNAS

IsoLoop 10-30 150w 10-30MHz 43" loop/50' cable	\$389.00	329 ⁹⁵
50' shielded loop cable, new style	29.00	
100' shielded loop cable w/connectors	39.00	
IT-1 IsoTuner Automatic tuner for IsoLoop ..	279.00	259 ⁹⁵
IsoPole 144 2m base station antenna	59.00	
IsoPole 220 220MHz base station antenna	59.00	
IsoPole 440 440MHz base station antenna	89.00	
HR-1 2m 1/2 wave telescopic whip w/BNC	24.00	
HR-2 220MHz 1/2 wave telescopic whip w/BNC ..	24.00	
HR-4 440MHz 1/2 wave telescopic whip w/BNC ..	24.00	
SWR-121 HF Antenna performance analyzer ..	399.00	349 ⁹⁵
SWR-121V/U VHF/UHF ant performance analy ..	449.00	399 ⁹⁵
SWR.COM SWR curve software for IBM	75.00	

MISCELLANEOUS

ARE-60/HL-60 HamLink Phone controller	\$269.00	249 ⁹⁵
ARE-61/HL-61 Interface cable for Icom	50.00	
ARE-62/HL-62 Interface cable for Kenwood	50.00	
ARE-63/HL-63 Interface cable for Yaesu	60.00	
OP-80 OpLink For fast CW/stereo headset ..	130.00	119 ⁹⁵
ARE-10 Silencer Ext sprk w/DTMF decoder	100.00	
ARE-20 Digitalker Voice synth freq counter	250.00	229 ⁹⁵
RL-60 Radio Link HF remote via handheld	329.00	299 ⁹⁵
AVT Master Amiga Video System; SSTV/FAX ..	319.00	269 ⁹⁵
VSF-70 1w PEP 430 vestigial SB ATV Xcvr ... Dmwv	379.00	329 ⁹⁵
RLA-70 50w PEP 430MHz ATV amp/ps Δmw	699.00	679 ⁹⁵

AEA - continued

430-16 16 el 430MHz 14.3db beam Δmwfv	119.00	109 ⁹⁵
ATV Workbook	14.99	
World Clock	25.00	

ARRL (ARR)

100 1994 Radio Amateur's Handbook	\$ 25.00	
101 1993 Radio Amateur's Handbook .....Dw	25.00	
105 50 Years of ARRL	4.00	
110 200 Meters and Down (early ham radio) ..	8.00	
115 AX.25 (packet radio)	8.00	
120 Advanced Class License Manual	8.00	
125 Antenna Book	20.00	
130 Antenna Compendium	10.00	
135 Antenna Compendium II	12.00	
140 Antenna Impedance Matching	20.00	
145 Complete DX'er	12.00	
150 Data Book	12.00	
155 Extra Class License Manual	8.00	
160 FCC Rule Book	9.00	
165 First Steps in Radio	5.00	
170 General Class License Manual	6.00	
175 Gil Cartoon Book	5.00	
180 Grid Locator Atlas	5.00	
185 Hints and Kinks	9.00	
190 Hostage in the Woods	5.00	
195 Introduction to Morse Code cassettes	10.00	
200 Log Book	3.50	
205 Low Profile Amateur Radio	8.00	
210 Morse Code the Essential Language	6.00	
215 Morse Tutor software for IBM	20.00	
220 Night Signals	6.00	
225 Novice Antenna Notebook	10.00	
230 Novice Notes: The Book	6.00	
236 Now You're Talking II (new ham)	19.00	
240 Operating Manual	18.00	
250 1993 Passport to Worldband Radio ....Dv	16.95	
251 1994 Passport to Worldband Radio	17.95	
255 QST binder	12.00	
260 RFI-How to Find It & Fix It	15.00	
265 Radiogram message blanks .....pad	2.00	
270 Repeater Directory	6.00	
275 Satellite Anthology	8.00	
280 Satellite Experimenter's Handbook	20.00	
285 Set 1 5-10 wpm code practice cassettes ..	10.00	
290 Set 2 10-15 wpm code practice cassettes ..	10.00	
295 Set 3 15-22 wpm code practice cassettes ..	10.00	
300 Set 4 13-14 wpm code practice cassettes ..	10.00	
305 Solid State Design	12.00	
310 Technician Class License Manual	6.00	
315 Transmission Line Transformers	20.00	
320 Transmitter Hunting	19.00	
325 U.S. Call Area Map	3.00	
330 W1FB's Antenna Notebook	10.00	
335 W1FB's Help for New Hams	10.00	
340 W1FB's QRP Notebook	10.00	
345 World Map	12.00	
350 Yagi Antenna Design	15.00	
355 Your Gateway to Packet Radio	12.00	

ARRL - continued

356 Your VHF Companion	8.00	
358 Your Packet Companion	8.00	
359 Your RTTY/AMTOR Companion	8.00	

TOMPKINS BOOKS

360 CQ Ghost Ship	\$ 5.00	
365 DX Brings Danger	5.00	
370 Death Valley QTH	5.00	
375 Grand Canyon QSO	5.00	
380 Murder by QRM	5.00	
385 SOS at Midnight	5.00	

On major products ask your salesperson about...

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- Latest Sale Prices
- Monthly specials
- Coupons, etc.

Info also available on the AES® BBS
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CODES SHOWN NEXT TO PRICES

(T) • Item too large or too heavy for UPS. Truck shipment only. No COD, send payment in advance or use charge card for merchandise; freight charges will be collected upon delivery.

NOTE: Charges for truck shipments from 1-99 lbs are running a minimum of \$80.00, plus local destination charges. It is advisable to contact a local freight office for a quotation.

(A) • Air Freight shipment only. Item too large or too heavy for UPS, and the value too great for truck insurance. No COD — send payment in advance or use charge card for merchandise; freight charges will be collected on delivery.

(*) • CLOSEOUT — items normally available at all stores, quantities limited to available inventory.

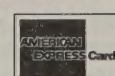
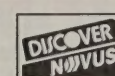
(D) • DISCONTINUED by Manufacturer but still available from stock in limited quantities when this price list was published.

(†) • TEMPORARY LOW PRICE due to Special Purchase, overstock, etc. Quantities may be limited at price shown.

(Δ) • Item not discontinued by Manufacturer but probably will not be available from our stores when present stock sold out.

End of line STORE LOCATION CODES (means close-out or special items were at these stores): (m) Milwaukee; (w) Wickliffe; (f) Orlando; (c) Clearwater; (v) Las Vegas; (*) all AES stores

STORE HOURS: Mon thru Fri. 9-5:30; Sat. 9-3



AES® Store Locations

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Milwaukee, WI 53223; 5710 W. Good Hope Road	(414) 358-0333	1-800-558-0411	(414) 358-3337
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Las Vegas, NV 89106; 1072 N. Rancho Drive	(702) 647-3114	1-800-634-6227	(702) 647-3412

ARRL - continued

RSGB PUBLICATIONS

390 HF Antennas	Dw	\$ 20.00	9 ⁹⁵
400 RSGB Operating Manual		14.00	
405 Radio Communications Handbook		35.00	
410 VHF/UHF Manual		30.00	

ACE SYSTEMS (ACE)

Opto Iambic Elec keyer, batt or DC	Δmw	\$ 59.95	49 ⁹⁵
Opto Deluxe Iambic elec keyer	Δmwfv	84.95	69 ⁹⁵

AIM (AIM)

24-7735P Coax stripper; RG-58/59/62	\$	35.85	19 ⁹⁵
24-7736P Coax stripper; RG-59/6/8281		35.85	19 ⁹⁵
24-7739P Coax stripper; RG-8/11/213		59.85	29 ⁹⁵
37-208 6-socket wall surge protector		32.85	19 ⁹⁵
37-503 6-socket surge/EMI/RFI filter		83.85	39 ⁹⁵
38-305 500ma 3/4.5/6/7.5/9/12vdc adapter		20.85	13 ⁹⁵
38-312 1.2A 1.5/3/4.5/6/7.5/9/12vdc adapt		49.50	32 ⁹⁵
38-384 4A power supply, 5A surge		77.85	39 ⁹⁵
46-221 20K ohms/volt VOM	Dm	29.95	19 ⁹⁵
48-1123TP 8w 1700rpm 4.68" sq AC fan		36.00	19 ⁹⁵
48-1921TP 10w 2700rpm 3.62" sq AC fan		40.50	19 ⁹⁵
48-1923TP 6w 1700rpm 3.62" sq AC fan		40.50	19 ⁹⁵
48-3120P 4.68" finger guard		2.95	
48-3920P 3.62" finger guard		4.05	
48-3250P 4' AC cord w/plug for fan		2.95	
64-3UUP 3' RG-58 w/PL-259s		7.00	
64-6UUP 6' RG-58 w/PL-259s		8.00	
64-9UUP 9' RG-58 w/PL-259s		9.00	
64-12UUP 12' RG-58 w/PL-259s		10.00	
64-18UUP 18' RG-58 w/PL-259s		11.00	

ALINCO (ALI)

EBP-6NA 9.6v 450ma nicad batt	Dw	\$ 56.95	44 ⁹⁵
EBP-7NAZ 7.2v 700ma nicad batt	Δm	59.00	
EBP-8NAZ 12v 700ma nicad batt	Δm	83.00	
EBP-9NAZ 7.2v 500ma nicad batt	Δm	59.00	
EDC-2 Cig charging cord; EBP-7NAZ	Δmw	9.00	
EDC-8Z Mobile DC pwr cable w/filter	Δmwv	20.00	
EDC-11 Extra AC wall cgr for 8NAZ	Δm	24.00	
EMS-12 Speaker/mic	Δmw	39.00	
DJ-162TD 2.5w 2m FM HT/batt/cgr/holder/TTP D*			199 ⁹⁵
EBP-10NA 7.2v 700ma quick charge batt ..		42.00	
EBP-12NA 12v 700ma quick charge batt ..		59.00	
EDC-16 Cigarette lighter cable		12.00	
EDC-21 Extra wall cgr for EBP-10NA		18.00	
EDC-22 Wall charger for EBP-12NA		22.00	
EDC-26 DC cord/charger w/filter; EBP-10NA ..		17.00	
EDH-1 Dry cell battery case		19.00	
EJ-6U Tone squelch unit		48.00	
EME-4 Ear/microphone w/PTT		33.00	
EME-6 Earphone		14.00	
EME-10 Headset w/VOX/PTT		68.00	
EMS-2Z Speaker/mic		43.00	
ESC-10 Carrying case; DJ-162T w/EBP-10NA ..		23.00	
ESC-11 Carrying case; DJ-560T/A, EBP-10NA ..		23.00	
DJ-F1T 2w 2m FM HT/batt/cgr/TTP		339.00	CALL
DJ-F1T/HP 5w 2m FM HT/batt/cgr/TTP		369.00	CALL

\$20 rebate - DJ-F1T/HP thru 12/31/93

DJ-180T 2w 2m FM HT/batt/cgr/TTP		279.00	CALL
DJ-180TH 5w 2m FM HT/batt/cgr/TTP		299.00	CALL
DJ-580T 2.5w 2m/440 FM HT/batt/cgr/TTP ..		519.00	CALL

\$20 coupon - DJ-580T thru 12/31/93

EBC-3 Belt clip		3.50	
EBC-5 Shoulder belt w/soft case		53.00	
EBC-6 Mobile bracket for DJ-180T		20.00	
EBP-14N 7.2v 400ma thin nicad batt		62.00	
EBP-16N 7.2v 700ma nicad battery		46.00	
EBP-18N 12v 600ma nicad battery		74.00	
EBP-20N Extra 7.2v 700ma batt; 180/580T ..		51.00	
EBP-22N/EBP-28N 12v 600ma batt; 180/580 ..		78.00	
EBP-24N 7.2v 1200ma batt; DJ-180/580T ..		77.00	
EDC-24 Charger for EBP-14/16/18		22.00	
EDC-34 Quick charger		99.00	
EDC-36 Mobile DC power cable w/filter		21.00	
EDC-37 13.8v power cable		8.00	
EDC-43 DC power cable		9.00	
EDC-49 Battery charger; EBP-20/22/24N ..		22.00	
EDH-5 AA dry cell pack		18.00	
EDH-6/EDH-11 AA alk pack; DJ-180/580T ..		20.00	

Reg Sale

ALINCO - continued

EDH-12 DC jack adapter; DJ-180T		11.00	
EJ-12U Tone decode unit; DJ-F1T		49.00	
EJ-14U 50 ch memory unit; DJ-180T		22.00	
EJ-15U 200 ch memory unit; DJ-180T		32.00	
EME-4 Ear/microphone w/PTT		33.00	
EME-6 Earphone		14.00	
EME-10 Headset w/VOX/PTT		68.00	
EME-11 Ear/microphone w/PTT/VOX		51.00	
EMS-2Z Speaker/mic		43.00	
EMS-8Z Remote speaker/mic		47.00	
ESC-15 Soft case for DJ-F1T		19.00	
ESC-17 Soft case; DJ-580T w/EBP-20N		21.00	
ESC-18 Soft case; DJ-180T w/EBP-20N		21.00	
ESC-19 Soft case; DJ-180T w/EBP-22N		23.00	
DR-119T 45w 2m FM Xcvr w/TTP mic		419.00	CALL
DR-130T 50w 2m FM Xcvr w/TTP mic		399.00	CALL
\$10 coupon - DR-130T thru 12/31/93			
EJ-19U Memory expansion unit		34.00	
EJ-20U Tone squelch unit		45.00	
DR-570T Dlx 45/35w 2m/440 FM Xcvr/TTP mic ..		649.00	CALL
DR-592T 45/35w 2m/440FM Xcvr/TTP Dmwfv ..		499 ⁹⁵	
DR-600T 45/35w 2m/440 FM Xcvr/TTP mic ...		759.00	CALL
\$30 rebate - DR-600T thru 12/31/93			
EDC-20 Separation mounting kit		44.00	
EJ-7U Tone squelch unit		67.00	
EJ-8U DTMF squelch; 590/592/599	Δmwfv	47.00	39 ⁹⁵
DR-1200T 25w 2m FM data radio		339.00	CALL
DR-1200TH 25w 2m FM 9600 baud data radio ..		369.00	CALL
EHM-36A TTP mic for DR-1200T/TH		55.00	

ALPHA DELTA (ALP)

R-T 200w 500 MHz lightning protector	\$	32.95	
Extra arc-plug cartridge for R-T		12.95	
R-T/N 200w thru 1 GHz type N protector		39.95	
Extra arc-plug cartridge for R-T/N		12.95	
HV 2kw 500 MHz lightning protector		35.95	
Extra arc-plug cartridge for HV		15.95	
HV/N 2kw thru 1 GHz type N protector		42.95	
Extra arc-plug cartridge for HV/N		15.95	
LT 200w thru 10m 'T' SO-239 protector		22.95	
Extra arc-plug cartridge for LT or LT/N		17.95	
Extra arc-plug for CLP	Dm	9.00	4 ⁹⁵
Delta-2 500 MHz 2-pos coax switch/protector ..		49.95	
Delta-2/N 1.3 GHz 2-pos type N switch/protector ..		64.95	
Delta-4 500 MHz 4-pos coax switch/protector ..		74.95	
Delta-4/N 1.3 GHz 4-pos type N switch/protector ...		89.95	
D-4 Extra arc-plug; Delta-2/2N/4/4N		9.00	
DX-A 160-80-40m twin sloper antenna		59.95	
DX-B 160-80-40-30m 60' sloper ant		69.95	
DX-CC 80-10m 5-band 82' no trap, no tuner dipole ..		99.95	
DX-DD 80-40m 82' Delta Dipole antenna		79.95	
DX-EE 40-10m 4-band 40' no trap, no tuner dipole ..		89.95	
DX-SWL AM broadcast-13m 60' SWL sloper ant ...		69.95	
DX-SWL-S 90-13m 40' SWL sloper ant		59.95	

AMECO PUBLICATIONS (AME)

4-01 Code Course Instruction Booklet	\$	1.50	
6-01 Mastering the Morse Code		2.50	
12-01 General Class FCC Test Manual		5.95	
17-01 Extra Class FCC Test Manual		5.95	
23-01 Novice Theory Course		6.95	
26-01 Advanced Class FCC Test Manual		5.95	
27-01 Novice Class FCC Test Manual		5.95	
28-01 Technician Class FCC Test Manual		5.95	
78-01 Codeless Technician FCC Test Manual ..		9.95	
102-01 Amateur Radio Theory Course		7.95	
EN-1 Novice Class Exam		1.95	

CODE COURSES - CASSETTE TAPES

100-T Junior code tape, 0-7 1/2 wpm	\$	5.95	
101-T Senior code tapes, 0-18 wpm		10.95	
103-T Advanced code tape, 8-18 wpm		5.95	
104-T Extra Class code tape, 20 wpm		5.95	
105-QT General Class QSO code course tape ...		5.95	
106-QT Extra Class QSO code course tape		5.95	
107-PC Morse Code Course for IBM		19.95	
NP-1 Novice Code & Theory Course		10.95	

CODE PRACTICE OSCILLATORS & CODE KEYS

OCM-2K Code oscillator & CW monitor kit	\$	19.95	
OCM-2W Wired oscillator & CW monitor		24.95	

Reg Sale

AMECO - continued

K-1 Bakelite type key		7.95	
K-4 Brass type key		12.95	
PREAMPLIFIERS			
TPA Tunable preamp & indoor active ant		\$ 76.95	69 ⁹⁵
P-9T Power supply for TPA		9.50	
PT-3 2-54 MHz transceiver preamp		124.95	119 ⁹⁵
P-12T Power supply for PT-3		9.95	

MULTIMETER

M-300 20K ohms/volt multimeter		\$ 19.95	
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FILTERS

HP-75T 75 ohm high-pass filter		\$ 12.95	
HP-300T 300 ohm high-pass filter		12.95	

AMERITRON (AMR)

AL-80B 1kw PEP out linear (3-500Z)		1195.00	1069
AL-82 1.5kw PEP out linear (2 3-500Zs)		1995.00	1679
AL-811 600w PEP out linear (3 811As)		649.00	589 ⁹⁵
AL-811H 800w PEP out linear (4 811As)		795.00	719 ⁹⁵
AL-1200 1.5kw PEP out linear (3CX-1200A7) ...		2095.00	1749
AL-1500 Linear amplifier (8877)		2625.00	2199
ALS-500M 600w PEP out solid state mob amp ..		799.00	679 ⁹⁵
ALS-600 700w PEP out solid state amp w/ps ..		1299.00	1099
ATR-15 1.5kw antenna tuner		399.00	359 ⁹⁵
ICP-120 120v inrush protector		79.00	
ICP-240 240v inrush protector		79.00	
QSK-5 Stand alone T/R switch		349.00	319 ⁹⁵
QSK-5PC PC board kit; T/R switch		249.00	229 ⁹⁵
CF-5 Cooling fan for QSK-5		39.95	
RCS-4 4-pos wireless remote coax switch		134.50	124 ⁹⁵
RCS-8V 160-2m 5-pos remote coax switch ...		149.00	139 ⁹⁵
Note: RCS-8V requires 8-wire control cable.			

AMSOFT (AMS)

World of Ham Radio IBM shareware		\$ 79.95	49 ⁹⁵
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ANLI (ANL)

A-1000 2m/440 8.5/11.8db 17.5' base ant ...		\$199.95	169 ⁹⁵
AL-800 2m/440 BNC rubber duck antenna		37.90	
RD-8 2m/440/900 MHz 6.5" BNC whip		19.95	
RD-78 2m/440/900 MHz 15" BNC whip		23.90	
S-1 2m/440 2.15/3.2db 14" whip		23.90	
CM-1 Clip mt w/angle adjustable BNC, coax ..		18.95	
CM-2 Clip mt w/BNC, coax		16.95	
WA-1 Window/sun roof clip mt w/BNC, coax ..		19.95	
AT-2B 2m/440 3/5.6db 22" NMO mobile ant ..		39.95	
AT-3 2m/440 2.15/3db 19" UHF mt mob ant ..		24.45	
AT-4/NMO 2m/440 3/5.5db 38" NMO mob ant ..		43.95	
AT-4/UHF 2m/440 3/5.5db 38" UHF mt mob ant ..		39.95	
MC-1/NMO NMO-style magnet mt w/coax ...		24.95	
MC-1/UHF UHF-style magnet mt w/coax		21.95	
TA-1/NMO NMO-style trunk mt w/coax		24.95	
TA-1/UHF UHF-style trunk mt w/coax		24.95	
SB-152 12vdc 6.5A port batt power pack		59.95	
SB-791 13.8v 5A ps w/cig outlet		29.95	

Antenna Specialists (ASP)

VHF/UHF ANTENNAS

AP-143 2m 3db on glass cellular look-alike ant ..		\$ 65.00	59 ⁹⁵
APR151.3 2m 3db on glass antenna		49.25	44 ⁹⁵
AP220.3G 220 3db on glass antenna	Δmwfv	49.25	39 ⁹⁵
AP-453 440 on glass cellular look-alike ant ..		65.00	59 ⁹⁵
APR450.5G 440 5db on glass antenna		54.50	49 ⁹⁵
KAV-382 On glass replacement mtg kit		8.25	
ASPC201L 108-512 MHz 1/4" wv 3/4" hole ant ...		22.75	

HOLE PLUGS

ASC-34 For 1 1/8" hole		\$ 3.15	
ASC-35 For 3/8" hole		2.10	
ASC-37 For 3/8" hole		2.10	
ASC-39 For 1/2" hole		2.10	

Antenna Supermarket (ANT)

Eavesdropper* 60-11m trap dipole SWL ant ...		\$ 79.95	
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*Specify SO-239 or twin-lead

SWL Sloper 120-11m SWL antenna		79.95	
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ARTSCI (ART)

Amateur Handbook		\$ 14.95	
Lost Users Manuals		19.95	
Radio/Tech Modifications #5A	Δmw	19.95	

ARTSCI - continued

Radio/Tech Modifications #5B	Dmww	19.95
Radio/Tech Modifications #6A		19.95
Radio/Tech Modifications #6B		19.95
Riding the Airwaves with Alpha & Zulu		14.95
US Repeater Guide		9.95

ASTATIC (AST)

10DA-L Dynamic mic head (no stand or cable)	\$ 59.99	49 ⁹⁵
D-104-L Crystal mic head (no stand or cable)	42.99	39 ⁹⁵
T-UG9 Amplified desk stand	50.00	
T-UG9-D104 Amp mic, 6-wire w/stand	92.99	79 ⁹⁵
MC-320 Crystal mic cartridge for D-104	19.99	
MC-321 Ceramic mic cartridge for D-104	19.99	

ASTRON (ASR)

RS-7A 5A power supply, 7A surge	\$ 68.95	59 ⁹⁵
RS-10A 7.5A power supply, 10A surge	85.95	69 ⁹⁵
RS-12A 9A power supply, 12A surge	99.95	79 ⁹⁵
RS-20A 16A power supply, 20A surge	121.95	99 ⁹⁵
RS-35A 25A power supply, 35A surge	197.95	149 ⁹⁵
RS-50A 37A power supply, 50A surge	285.95	219 ⁹⁵
RS-70A 57A power supply, 70A surge	339.95	259 ⁹⁵
RS-20M 16A ps w/meters, 20A surge	144.95	119 ⁹⁵
RS-35M 25A ps w/meters, 35A surge	204.95	169 ⁹⁵
RS-50M 37A ps w/meters, 50A surge	314.95	239 ⁹⁵
RS-70M 57A ps w/meters, 70A surge	372.95	289 ⁹⁵
VS-20M Variable 16A ps/meters, 20A surge ..	170.95	139 ⁹⁵
VS-35M Variable 25A ps/meters, 35A surge ..	238.95	189 ⁹⁵
VS-50M Variable 37A ps/meters, 50A surge ..	330.95	259 ⁹⁵
RM-35M 25A rack mt ps/meters, 35A surge ..	318.95	249 ⁹⁵
RM-50M 37A rack mt ps/meters, 50A surge ..	354.95	279 ⁹⁵
RM-60M 50A rack mt ps/meters, 55A surge ..	467.95	359 ⁹⁵
12/115 200w solid state 12vdc-115vac inverter .	79.95	59 ⁹⁵
2412 9A 22-32vdc to 13.8vdc converter	82.95	69 ⁹⁵
2412-20 16A 22-32vdc to 13.8vdc converter	146.95	109 ⁹⁵

AZIMUTH (AZI)

CC-2/7824 Cig lighter cord; TWR-3	\$ 7.75	1 ⁹⁵
DKS-22/7294 SS desk stand; TWR-3	9.95	3 ⁹⁵
BP-3/7826 Nicads (3 AAA; 2 needed; ALT-6 Dm	7.95	6 ⁹⁵
CA-2/7192 Vinyl carrying case; ALT-6	12.95	4 ⁹⁵
DSK/7194 Stainless desk stand; ALT-6	15.95	6 ⁹⁵
FML/7197 Flat stainless mtg plate; ALT-6 .Dm	12.95	5 ⁹⁵
PS-12/7822 AC power adapter/cgr; ALT-6 .Dm	9.95	5 ⁹⁵
RG-3/7830 Rain collector, self dump; ALT-6 Dm	49.95	34 ⁹⁵
PER-2/7400 Perception II indoor WX unit	179.95	169 ⁹⁵
WIZ-2/7420 Wizard II weather station	259.95	239 ⁹⁵
MON-2/7440 Monitor II weather station	399.95	369 ⁹⁵
CC-3/7873 Cig lighter power cord	9.95	
EC-40-4/7876 4-cond 40' extension cable .	17.95	
EC-40-6/7878 6-cond 40' extension cable .	22.95	
EJ-25/7880 25' junction box cable	15.95	
EJ-50/7881 50' junction box cable	26.95	
EJ-100/7882 100' junction box cable	49.95	
HUMD/7858 External humid & temp sensor	79.95	
LINK/7862 Weatherstar - PC interface	169.95	
MDPT/7870 Modem adapter	6.95	
RG-4/7851 Rain collector, self dumping	49.95	
AAS WAS/WAC QSL library	19.95	
ADX DXCC QSL library	19.95	
ALG Standard QSL library w/20 pages	19.95	
AWZ WAZ QSL library	19.95	
AEP Extra 20 pages for QSL libraries	12.95	
ARS-2 World RadioSphere acrylic globe	99.95	
GC-24 Large (1 1/2" digits) LCD 24-hour clock .	29.95	

B & K (B&K)

AUDIO TEST INSTRUMENTS

2005A RF generator	\$275.00	234 ⁹⁵
2009 MTS TV-stereo generator	399.00	339 ⁹⁵

CAPACITANCE METERS

810A 200 pF to 20 mF capacitance meter	\$134.00	114 ⁹⁵
815 Tester (cap/res/Hfe/diode/batt)	115.00	96 ⁹⁵
820 .1pF to 1F capacitance meter	269.00	229 ⁹⁵
830 200 pF to 200mF autoranging meter	325.00	279 ⁹⁵
875A Digital LCR meter	199.00	169 ⁹⁵
878 Universal hand-held LCR bridge	275.00	229 ⁹⁵

B & K - continued

COUNTERS

1803C 100 MHz frequency counter	\$209.00	179 ⁹⁵
1804A 550 MHz frequency counter	Dm	299.00 249 ⁹⁵
1806 100 MHz multi-function counter	249.00	214 ⁹⁵
1807 1.3GHz 1 ppm frequency counter	299.00	259 ⁹⁵
1823 175 MHz universal counter	399.00	339 ⁹⁵
1856 1.3 GHz frequency counter	Dm	499.00 399 ⁹⁵
1856A 1.3 GHz 1 ppm multi-function ctr	499.00	429 ⁹⁵

CRT RESTORER/ANALYZERS

480 CRT restorer/analyzer	\$699.00	599 ⁹⁵
490 Tri Dynamic restorer/analyzer	999.00	849 ⁹⁵

DIGITAL PRODUCTS

DP-21 Digital logic probe	\$ 34.00	29 ⁹⁵
DP-31 Digital pulser probe	39.00	34 ⁹⁵
DP-51 Digital probe	95.00	84 ⁹⁵
DP-101 Digital pulsing probe	111.00	94 ⁹⁵

GENERATORS

3001 Audio generator	\$ 79.00	66 ⁹⁵
3011B 2 MHz function generator w/dig disp ..	269.00	226 ⁹⁵
3017A 2 MHz sweep/function generator	339.00	286 ⁹⁵
3022 Sweep/func generator w/freq counter ..	479.00	399 ⁹⁵
3026 5 MHz sweep/function gen w/dig disp ..	629.00	539 ⁹⁵
3030 .001 Hz-5 MHz sweep/function gen ....D	865.00	699 ⁹⁵
3040 Universal func gen w/freq counter	1195.00	999 ⁹⁵

HIGH VOLTAGE PROBE

HV-44 Direct-reading 40kV DC probe	\$ 99.00	84 ⁹⁵
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ISOLATION TRANSFORMER

TR-110 Isolation transformer	\$189.00	159 ⁹⁵
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MULTIMETERS (ANALOG)

114 20,000 ohms/volt analog multimeter	\$ 41.00	36 ⁹⁵
117 Pocket size analog multitester	13.00	
214 50,000 ohms/volt analog multimeter	55.00	46 ⁹⁵
PR-21 Test probe assembly for 290	Δm	45.00 19 ⁹⁵
PR-23 Demodulator probe for 277/290	Dm	30.00 14 ⁹⁵

MULTIMETERS (DIGITAL)

340A 300A multi-function clamp-meter	\$109.00	94 ⁹⁵
350A 1000A multi-function clamp-meter	135.00	114 ⁹⁵
388A Test Bench DMM, 0.5% accuracy	119.00	104 ⁹⁵
389 Test Bench DMM, 0.25% accuracy	139.00	119 ⁹⁵
390 Test Bench DMM, 0.1% accuracy	159.00	134 ⁹⁵
391 Test Bench DMM, 0.05% accuracy	179.00	149 ⁹⁵
2701 3 1/2-dig autoranging dig multimeter	59.00	49 ⁹⁵
2703A Tool kit DMM, basic model, 0.5%	39.00	34 ⁹⁵
2704A Tool kit DMM w/cap/transistor/diode ..	59.00	49 ⁹⁵
2706 Tool kit DMM, 2704A plus temperature .	79.00	69 ⁹⁵
2707 Tool kit DMM, 2704A plus logic & freq ..	89.00	76 ⁹⁵
2802B 3 1/2-dig probe type multimeter	64.00	54 ⁹⁵
2831A Digital bench multimeter	299.00	249 ⁹⁵
2832 3 1/2-dig 0.5% lab multimeter	209.00	179 ⁹⁵
2833 4 1/2-dig 0.05% true RMS multimeter	400.00	339 ⁹⁵
2835 3 1/2-dig 0.5% bench type LCD DMM	270.00	229 ⁹⁵
2860 3 1/2-dig 0.5% ruggedized DMM	99.00	84 ⁹⁵
2907 3 1/2-dig 0.1% true RMS, cap, logic ....Dm	195.00	159 ⁹⁵
2911 3 1/2-dig 0.5% analog/bar meter	89.00	74 ⁹⁵
2912 3 1/2-dig 0.3% analog/bargraph meter .D	149.00	119 ⁹⁵
2940 4 1/2-dig 0.05% data hold, freq DMM ....D	160.00	129 ⁹⁵
CP-1 AC current clamp-on probe	Dm	65.00 54 ⁹⁵

OSCILLOSCOPES

1422 20 MHz mini scope	1395.00	1189
1443 40 MHz port scope/batt/case	1695.00	1439
1541B 40 MHz 6" dual trace scope	845.00	719 ⁹⁵
2120 20 MHz dual trace oscilloscope	549.00	469 ⁹⁵
2125 20 MHz dual time base oscilloscope	646.00	549 ⁹⁵
2160 60 MHz dual trace delayed sweep	1099.00	929 ⁹⁵
2190 100 MHz three trace delayed sweep ....D	1645.00	1299
2190A 100 MHz three trace delayed sweep	1645.00	1399
2522A Digital storage oscilloscope	1099.00	929 ⁹⁵

POWER SUPPLIES

1604 Portable isolated AC supply	\$104.00	89 ⁹⁵
1610 0-30V, 0-1A power supply	229.00	189 ⁹⁵
1611 0-50V, 0-2A power supply	309.00	259 ⁹⁵
1630 0-30V, 0-3A power supply	315.00	269 ⁹⁵
1635 0-30V, 0-3A digital supply	380.00	329 ⁹⁵
1646 0-16V, 0-10A power supply	499.00	349 ⁹⁵
1651 Power supply; (2) 0-24vdc, .5A; 5V, 4A .	429.00	359 ⁹⁵
1653 0-150V, 2A isolated AC ps	289.00	249 ⁹⁵
1655 0-150V, 3A isolated AC ps/leak tester ..	499.00	429 ⁹⁵

B & K - continued

1660 (2) 0-30V, 2A; (1) 4-6.5V, 5A ps	649.00	549 ⁹⁵
1686 High current DC power supply	199.00	169 ⁹⁵

SEMICONDUCTOR TESTERS

510 Portable transistor tester	\$230.00	199 ⁹⁵
520B Industrial transistor tester	399.00	339 ⁹⁵
530 Lab quality semiconductor tester	749.00	639 ⁹⁵
540 Component tester	1150.00	969 ⁹⁵
541 Component comparator	449.00	384 ⁹⁵
545 Circuit analyzer analog signature	2950.00	2499
560A Programmable PC board tester	3500.00	2969
AK-560A Software package for 560A	495.00	399 ⁹⁵

TELEPHONE TEST INSTRUMENTS

1045A Telephone product tester	\$599.00	499 ⁹⁵
1050 Telephone product analyzer	2260.00	1899

THERMOMETERS

920 K-type dual input dig temp meterD	\$ 80.00	69 ⁹⁵
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VIDEO TEST INSTRUMENTS

1211C Portable color generator	D	\$235.00 189 ⁹⁵
1211D Portable color generator		235.00 199 ⁹⁵
1221 Portable NTSC video generator		369.00 309 ⁹⁵
1249A NTSC generator w/RGB		558.00 469 ⁹⁵
1251 NTSC signal generator		1195.00 999 ⁹⁵
1260 Deluxe NTSC signal generator		1995.00 1699

ACCESSORIES

PR-28 HV multimeter probe w/std dual banana .	\$ 49.00	44 ⁹⁵
PR-32 RF detector/demod scope probe w/BNC	49.00	44 ⁹⁵
PR-37G Gray dlx 10:1 direct BNC scope probe	54.50	49 ⁹⁵
PR-37R Red dlx 10:1 direct BNC scope probe	54.50	49 ⁹⁵

Other accs available on special order. B & K stocked only at Milwaukee. Call Ron Glisch for B & K.

B & W COAX SWITCHES (B&W)

CSR-5G 5-position, side connectors	\$ 51.50	49 ⁹⁵
CS-3G 3-position, for desk/wall mounting	40.50	39 ⁹⁵
CS-6G 6-position, for desk/wall mounting	51.50	49 ⁹⁵

Note: Above switches provide grounding of unused terminals, & are supplied w/face plates & knobs.

CR-115 Coax ant relay - 48 to 130vac	42.50	
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LOW-PASS FILTERS

FL-10/100 1.5-30 MHz, 100w, 52 ohmsDm	\$ 32.75	
FL-10/1500 1.5-30 MHz, 1kw, 52 ohms	41.50	
FL-10/1500/70 1.5-30MHz/1kw/72 ohm Dmwf	55.00	24 ⁹⁵

ANTENNAS

AP-10 57" portable 40/20/15/10/6/2m ant ...	\$ 69.95	
AT-55 40/20/15/10m 55' trap antenna	79.95	74 ⁹⁵
AT-55K As above, but kit	69.50	64 ⁹⁵
AT-110 80/40/20/15/10m 110' trap antenna ..	89.50	84 ⁹⁵
AT-110K As above, but kit	76.95	72 ⁹⁵
AS-160 160/80/40/20m 137' trap dipole	149.50	139 ⁹⁵
AS-80 80/40/20m 78' trap dipole	115.75	109 ⁹⁵
AS-40 40/20/15/10m 40' trap dipole	149.50	139 ⁹⁵
AS-20 20/15/10m 23' trap dipole	115.75	109 ⁹⁵
AXS-160 160/30m 96' trap dipole	115.75	109 ⁹⁵
AXS-80 80/40/15m 64' trap dipole	115.75	109 ⁹⁵
AC-3.5-30 80-10m 8-band 90' dipole	198.00	179 ⁹⁵
AC-1.8-30 Continuous 1.8-30 MHz antenna ..	198.00	179 ⁹⁵
BWD-1.8-30 1.8-30 MHz 90' folded dipole ...	198.00	179 ⁹⁵
AV-25 80/40/30/20/15/10m vert, 25' high	143.50	129 ⁹⁵
AR-25 Radial kit for AV-25	26.95	
ASW-5 75" portable 49-11m SWL ant ....Δmfv	52.25	14 ⁹⁵
VS-300A 300w 160-10m antenna tuner	111.00	99 ⁹⁵

BELDEN (BEL)

52 OHM COAXIAL CABLE

9201 RG-58 (solid center)	per ft.	20¢
9201	100 ft. Roll	29.74 18 ⁹⁵
9201	500 ft. Roll	109.89 69 ⁹⁵
9201	1000 ft. Roll	216.45 129 ⁹⁵
8240 RG-58U (solid center)	per ft.	26¢
8240	100 ft. Roll	38.20 24 ⁹⁵
8240	500 ft. Roll	131.00 89 ⁹⁵
8240	1000 ft. Roll	262.00 169 ⁹⁵
8259 RG-58AU (stranded center)	per ft.	29¢
8259	100 ft. Roll	43.00 26 ⁹⁵
8259	500 ft. Roll	137.00 89 ⁹⁵
8259	1000 ft. Roll	276.00 169 ⁹⁵

BELDEN - continued

8219	RG-58AU (stranded, foam)	per ft.	33¢
8219	.....100 ft. Roll	57.25	29 ⁹⁵
8219	.....500 ft. Roll	155.00	99 ⁹⁵
8219	.....1000 ft. Roll	387.50	189 ⁹⁵
8262	RG-58C (non-contaminating)	per ft.	36¢
8262	.....100 ft. cut		32 ⁹⁵
8262	.....500 ft. Roll	173.00	119 ⁹⁵
8262	.....1000 ft. Roll	346.00	219 ⁹⁵
9258	RG-8X (stranded, foam)	per ft.	36¢
9258	.....100 ft. Roll	81.25	32 ⁹⁵
9258	.....500 ft. Roll	217.56	99 ⁹⁵
9258	.....1000 ft. Roll	490.00	189 ⁹⁵
8237	RG-8U	per ft.	64¢
8237	.....100 ft. Roll	102.00	59 ⁹⁵
8237	.....500 ft. Roll	390.00	239 ⁹⁵
8214	RG-8U (foam)	per ft.	59¢
8214	.....100 ft. Roll	101.00	49 ⁹⁵
8214	.....500 ft. Roll	452.00	229 ⁹⁵
8214	.....(Truck) 1000 ft. Roll	898.00	429 ⁹⁵
9913	RG-8U (low loss)	100 ft. Roll	113.00 59 ⁹⁵
9913	.....250 ft. Roll	244.00	129 ⁹⁵
9913	.....500 ft. Roll	486.00	229 ⁹⁵
9251	RG-8A (non-contaminating)	per ft.	87¢
9251	.....100 ft. Roll	132.09	77 ⁹⁵
9251	.....500 ft. Roll	492.84	299 ⁹⁵
8267	RG-213 (non-contaminating)	per ft.	76¢
8267	.....100 ft. cut		66 ⁹⁵
8267	.....500 ft. Roll	597.18	279 ⁹⁵

72 OHM COAXIAL CABLE

8241	RG-59U (72 ohm, solid center)	per ft.	28¢
8241	.....100 ft. Roll	44.00	24 ⁹⁵
8241	.....500 ft. Roll	123.00	79 ⁹⁵
8241	.....1000 ft. Roll	246.00	149 ⁹⁵
8238	RG-11 (72 ohm, stranded center)	per ft.	79¢
8238	.....100 ft. Roll	124.32	69 ⁹⁵
8238	.....500 ft. Roll	470.64	279 ⁹⁵

8213	RG-11 (72 ohm, solid, foam)	per ft.	69¢
8213	.....100 ft. cut		59 ⁹⁵
8213	.....500 ft. Roll	360.00	239 ⁹⁵

ROTOR CABLE

8484	4-wire; U-105/U-110	per ft.	28¢
8484	.....100 ft. Roll	48.00	24 ⁹⁵
8484	.....500 ft. Roll	185.00	99 ⁹⁵
8484	.....1000 ft. Roll	370.00	189 ⁹⁵
8448	8-wire; HD-73/CD-45/HAM-IV	per ft.	46¢
8448	.....100 ft. Roll	103.75	42 ⁹⁵
8448	.....500 ft. Roll	412.50	159 ⁹⁵
8448	.....1000 ft. Roll	820.00	319 ⁹⁵
9405	8-wire; HAM-IV/T ² X/HDR-300	per ft.	59¢
9405	.....100 ft. cut		54 ⁹⁵
9405	.....500 ft. Roll	585.00	249 ⁹⁵
9405	.....(Truck) 1000 ft. Roll	1167.50	489 ⁹⁵

ANTENNA WIRE

8000	No. 14 stranded ant wire	per ft.	20¢
8000	.....100 ft. Roll	30.50	16 ⁹⁵
8000	.....1000 ft. Roll	275.00	149 ⁹⁵

No. 8 ALUMINUM GROUND WIRE

8018	Multiples of 50 ft.	each	\$ 19.00 12 ⁹⁵
8018	.....500 ft. Roll		150.00 99 ⁹⁵

Note: All above roll pricing is for rolls as shown only; all other lengths, even if more than roll length shown or a multiple of roll length shown, are sold at the per ft. price.

COILED MICROPHONE CABLE

8497	1 shielded, 2 unshielded (rubber)	\$ 16.25
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FOAM COAX w/PL-259s ON BOTH ENDS

9349	3' RG-58AU foam	\$ 19.32	14 ⁹⁵
9350	15' RG-58AU foam	21.63	16 ⁹⁵
9347	20' RG-58AU foam, 1 PL-259	19.32	14 ⁹⁵
9352	50' RG-58AU foam	32.13	24 ⁹⁵
9354	50' RG-8U foam	60.90	44 ⁹⁵
9355	75' RG-8U foam	84.00	59 ⁹⁵
9356	100' RG-8U foam	101.85	79 ⁹⁵

BELMERIT (BLM)

DM-10S	3½-digit digital multimeter	\$ 24.95
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Reg Sale**BELMERIT - continued**

DM-90	Pencil-type dig meter/logic tester	Dw	39.95 29 ⁹⁵
DM-3000	Wide range digital multimeter		49.95
DM-3050	Wide range dig multimeter/freq test		59.95
BENCHER (BEN)			
BY-1	Iambic keyer paddle w/black base	\$ 72.95	69 ⁹⁵
BY-2	Iambic keyer paddle w/chrome base	89.95	84 ⁹⁵
BY-3	Iambic keyer paddle, gold plated	250.00	219 ⁹⁵
ST-1	Single lever keyer paddle, black base	72.95	69 ⁹⁵
ST-2	Single lever keyer paddle, chrome base	89.95	84 ⁹⁵
ST-3	Single lever keyer paddle, gold plated	250.00	219 ⁹⁵
ZA-1A	3.5-30 MHz 1:1 balun	34.95	
HWK	Balun hardware kit for 2" boom	8.95	
YA-1	1kw low pass filter	49.95	

BIRD (BIR)

43	Thurline Directional wattmeter, SO-239s	\$ 230.00
4300-400	Peak reading conversion kit	115.00
43P	Peak reading directional meter, SO-239s	345.00
4431	Wattmeter, variable RF tap, SO-239s	405.00
Elements (Table 1) 50H-1000H		each 76.00
Elements (Table 1) 2500H, 5000H		each 110.00
Elements (Table 1) 25-1000 MHz		each 61.00
Low-power elements (Table 2)		each 82.00

TABLE 1 Standard Elements

Frequency Bands (MHz)

Power Range	2-30	25-60	50-125	100-250	200-500	400-1000
5 watts	—	5A	5B	5C	5D	5E
10 watts	—	10A	10B	10C	10D	10E
25 watts	—	25A	25B	25C	25D	25E
50 watts	50H	50A	50B	50C	50D	50E
100 watts	100H	100A	100B	100C	100D	100E
250 watts	250H	250A	250B	250C	250D	250E
500 watts	500H	500A	500B	500C	500D	500E
1000 watts	1000H	1000A	1000B	1000C	1000D	1000E
2500 watts	2500H					
5000 watts	5000H					

TABLE 2 Low-Power Elements

1 watt	Cat. No.	2.5 watts	Cat. No.
60-80 MHz	060-1	60-80 MHz	060-2
80-95 MHz	080-1	80-95 MHz	080-2
95-125 MHz	095-1	95-125 MHz	095-2
110-160 MHz	110-1	150-250 MHz	150-2
150-250 MHz	150-1	200-300 MHz	200-2
200-300 MHz	200-1	250-450 MHz	250-2
275-450 MHz	275-1	400-850 MHz	400-2
425-850 MHz	425-1	800-950 MHz	800-2
800-950 MHz	800-1		

CC-1	Carrying case	41.00
EC-1	Element case	32.00
80F	5w dummy load w/type N female	69.00
80M	5w dummy load w/type N male	69.00
8080	25w dummy load w/type N male QC	98.00
8085	50w dummy load w/type N male QC	140.00
4273	1.5-35 MHz variable RF sig sampler*	120.00
4273-100	For Bird equipment installation	130.00
4275	20-1000 MHz variable RF sampler*	115.00
4275-100	For Bird equipment installation	130.00
4304A	25-1000 MHz 500w wattmeter	470.00

*2 QC connectors required - not included

QUICK CHANGE CONNECTORS (QC)

4240-050	UHF female (SO-239)	each \$ 8.00
4240-179	UHF male (PL-259)	each 41.00
4240-062	Type N female	each 8.00
4240-063	Type N male	each 17.00
4240-125	BNC female	each 17.00
4240-132	BNC male	each 49.00

Other Bird items available on special order

BUCKMASTER (BUC)

HamCall	CD-ROM ham listings; IBM/Mac	\$ 50.00
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BUTTERNUT (BUT)

HF-6VX	80/40/30/20/15/10m 26' vert ant	169 ⁹⁵
HF-9VX	80/40/30/20/17/15/12/10/6m vert	209 ⁹⁵
A17-12	17 & 12m kit for HF-6VX	44 ⁹⁵
CPK	Counterpoise kit	49 ⁹⁵
MPS	Mounting post sleeve	9 ⁹⁵
RMK-II	Roof mounting kit w/radials	69 ⁹⁵

BUTTERNUT - continued

STR-II	Radial kit only	44 ⁹⁵
TBR-160S	160m resonator for HF-6VX	69 ⁹⁵
HF-2V	80/40m 32' vertical	159 ⁹⁵
30-MRK	30m resonator for HF-2V	44 ⁹⁵
TBR-160S	160m resonator	69 ⁹⁵
HF-5B	2 el 20/17/15/12/10m butterfly beam	259 ⁹⁵
10-11	2 el butterfly beam for 10 & 11m	119 ⁹⁵
2MCV	2m ¾ wave 3 db vertical ant ....Δmwfv	19 ⁹⁵
2MCV-5	2m ¾ wave 5 db vertical ant ....Δmfv	29 ⁹⁵

CES (CES)

410	Personal Patch interconnect	\$ 250.00 189 ⁹⁵
SSI-68	Simplex autopatch	460.00 299 ⁹⁵
SDI-50	Dlx splx/dplx autopatch/rptr controller	760.00 489 ⁹⁵

CAMBRIDGE (CAM)

The Art of Electronics (book)	\$ 59.95
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CIRCUIT WORKS (CIR)

Conductive Pen	\$ 10.95
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CLOCKS

AEA World Clock	\$ 25.00	
AZI GC-24 1½" digits LCD 24-hour clock	29.95	
BMI 972A 12" 12-hour wall clock	37.95	
BMI 972AD 14" 12/24-hour wall clock	39.95	
BMI 973A 12" 24-hour wall clock	59.95	49 ⁹⁵
MFJ 105B 24-hour quartz wall clock	19.95	
MFJ 107B 24-hour digital clock	9.95	
MFJ 108B 24/12-hour dual disp digital clock	19.95	
MFJ 109 World time clock	Dmw 19.95	6 ⁹⁵
MFJ 112 Deluxe world map clock	24.95	

COAX SEAL (UNV)

104	½" x 60" coax seal	\$ 2.49
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COMET (CMT)**MOBILE ANTENNAS**

B-10	2m/440 2.15db 12" cell look-alike ant	\$ 38.95
B-10NMO	2m/440 2.15db 12" cell look-alike NMO	38.95
B-20	2m/440 2.15/5db 30" cell look-alike ant	54.95 49 ⁹⁵
B-20NMO	2m/440 2.15db/5db 30" cell look NMO	54.95 49 ⁹⁵
CA-2x4MB	2m/440 4.5/7db 5' mob ant	Dmfv 79.95 59 ⁹⁵
CA-2x4SR	2m/440 3.8/6.2db 3' 4" mob Dmfv	62.95 49 ⁹⁵
CA-28HR	10m 7' fold-over mobile ant	69.95 64 ⁹⁵
CA-214W	2m/220 3' 1.7/3.4db mobile ant	62.95 59 ⁹⁵
CA-220JR	220 3.4db 2' 9" fold-over ant Dmfv	35.25 29 ⁹⁵
CA-220MR	220 4.2db 3' 3" fold-over ant	44.75
CA-430HG	440 5db 2' 5" mobile antenna	44.95
CA-2405	2.4 GHz 7db 17" fg type N antenna	50.95
CA-HV	40/15/10/6/2m 5' 10" mobile ant	129.95 119 ⁹⁵
L-14	20m loading coil for CA-HV	29.00
CHL-21J	2m/440 0/2.15db 12" mobile ant	29.95
CHL-23J	2m/440 2.15/3.8db 20" mobile	34.95
CHL-185	2m 4.1db 4' 8" mobile ant	49.95
CHL-350	10/6m 0/2.15db fold-over 7' ant	71.50 64 ⁹⁵
CMW-202N	900 MHz 5.1db 18" type N ant	39.95
CSR-12S	1.2GHz 6.8db 20" mobile N ....Dmfv	43.00 24 ⁹⁵
CX-224	2m/220/440 2.15/3.2/5.5db 42" mobile	79.95 74 ⁹⁵
CX-224NMO	2m/220/440 2.15/3.2/5.5db 42" NMO	79.95 74 ⁹⁵
CX-801	2m/440/1.2 3/6.8/9.6db 39" type N	89.95 84 ⁹⁵
CX-802	2m/440/1.2 2.8/6.8/8.4db 29" N ....Dmv	68.00 34 ⁹⁵
CX-809P	2m/440/cell 3/6/8.4db 2'11" fold-over	72.95 66 ⁹⁵
FJ-15S	6m/2m/440 2.15/4.5/7.2db 5' mobile	89.95 84 ⁹⁵
FL-62S	2m/440 3.5/6.2db 3' 5" mobile ant	79.95 74 ⁹⁵
FL-67S	2m/440 4.5/7.2db 4' 11" mobile	96.95 89 ⁹⁵
FL-95SN	2m/440/1.2 2.8/6.8/8.4db type N	82.95 77 ⁹⁵
FS-74B	440/1.2 black 5.1/7.2db 22" N mob	79.95 74 ⁹⁵
FS-92B	2m/440/1.2 2.1/4.1/6.8 23" type N	79.95 74 ⁹⁵
HA-4S	40/15/12/10m 4' 5" mobile ant	179.95 159 ⁹⁵
L-14HS	20m loading coil for HA-4S	29.95
NCG-1422M	2m/220 2.15/3.4db 3' mob Dmw	66.95 49 ⁹⁵
SB-123	1.2GHz 7.2db 24" type N mobile ant	54.95

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COMET - continued

SB-5	2m/440 3/5.5db 38" mobile antenna	58.95	54 ⁹⁵
SB-5NMO	2m/440 3/5.5db 38" NMO antenna	58.95	54 ⁹⁵
SB-7	2m/440 4.5/7.2db 4' 7" mobile ant	82.95	77 ⁹⁵
SB-7NMO	2m/440 4.5/7.2db 4' 7" NMO ant ...	82.95	77 ⁹⁵
WP-57	2m/440 2.15/5.2db on glass ant . Dmw	129.95	99 ⁹⁵
WP-75B	440/1.2 4.9/6.5db on glass BNC Dmwv	144.95	109 ⁹⁵
WP-75N	440/1.2 4.9/6.5db on glass N Dmwv	144.95	109 ⁹⁵

MOBILE MOUNTS, ETC

3D4M	Mobile mt, 13' coax w/UHF connectors	\$ 23.95	
3D4N	Mobile mt, 13' coax w/type N	24.95	
3D5M	Mobile mt, 16.5' coax w/UHF connectors	25.95	
5D4N	Roof mount, 13' coax w/type N	29.95	
AD-10N	N-MMO mount adapter	17.95	
AD-15M	UHF-NMO mount adapter	17.95	
BMG-BB	Med duty black mag mt, BNC/BNC ..	39.95	
BMG-M	Med duty black mag mt w/UHF conn .	42.95	
CA-MS1	Mag mt only, no coax; add 3D4M, etc	24.95	
CK-5M	Dlx 13' cable w/UHF connectors	37.95	
CK-5M5	Dlx 16.5' cable w/UHF connectors	39.95	
CK-5N	Dlx cable assembly w/type N	39.50	
MG-SRB	Med duty mag mt w/UHF/BNC	38.95	
MG-SRM	Med duty mag mt w/UHF connectors	36.95	
MS-3FVMM	Std duty mag mt w/UHF connectors .	39.95	
MS-3FVNN	Std duty mag mount w/type N	42.95	
MS-5LXMM	Hvy duty mag mt w/UHF connectors ..	56.95	
MS-5LXNN	Hvy duty magnet mount w/type N .	59.90	54 ⁹⁵
RS-9	Trunk lip mount, no coax	13.95	
RS-20	Gtr mt for small/med ants, no coax	29.95	
RS-21	Adj 360 degree hatch/tkn mt, no coax ..	29.95	
RS-25	Adj pipe clamp mount, no coax	32.95	
RS-80	Adjustable gutter mount, no coax	29.95	
RS-81	Adj trunk/hatch mount, no coax	29.95	
RS-82D	Low profile trunk lip mount, no coax .	34.95	
RS-85D	Lug rack/to 1.75" pipe mt, no coax ..	39.95	
TS-1M	Trunk lip mt w/coax	44.95	
TS-5M	Low profile tnk lip mt w/dlx cbl asmbly	54.95	
TS-103NN	Trunk lip mt w/coax, type N	39.35	
TS-106NN	Dlx trunk lip mt w/coax, type N	55.95	
5D-FB	Low loss 7.3mm (1/8") coax ...100m roll	183.85	159 ⁹⁵
5D-NPC	Male N connector for 5D coax	7.95	
5D-NJC	Female N connector for 5D coax	7.95	
5D-MPC	Male UHF (PL-259) for 5D coax	7.95	
5D-BNC	Male BNC connector for 5D coax ...	9.95	
10D-FB	Low loss 13.1mm (1/2") coax 100m roll	426.00	379 ⁹⁵
10D-NPC	Male N connector for 10D coax	9.95	
10D-NJC	Female N connector for 10D coax	9.95	
10D-MPC	Male UHF (PL-259) for 10D coax .	9.95	

BASE STATION ANTENNAS

CA-2x4FX	2m/440 4.5/7.2db 5' 11" base ant	\$21.25	109 ⁹⁵
CA-2x4MAX	2m/440 8.5/11.9db 17' 8" ant ...	219.95	189 ⁹⁵
CA-2x4WX	2m/440 6.5/9db 10' 2" base ant ...	174.95	154 ⁹⁵
CA-2x4Z	2m/440 8.2/11.5db 15' 11" type N ..	209.95	189 ⁹⁵
CA-62DB	52-54MHz 6.5db 21.75' base ant ...	139.95	119 ⁹⁵
CA-350DB	10/6m 2.15/6.5db 22' 7" ant	289.95	259 ⁹⁵
CA-712EF	440 9db 10' 5" base antenna	134.95	119 ⁹⁵
CA-1218G	1.2GHz 12db 7.75' hvy duty N	145.00	129 ⁹⁵
CA-1243E	440/1.2 GHz 6/8.4db 3' 4" type N ..	94.95	84 ⁹⁵
CA-1243Z	440/1.2 GHz 9.4/12.8db 7' type N .	161.95	149 ⁹⁵
CA-2422S	2.4GHz 15.3db 4' 8" type N base ..	180.85	159 ⁹⁵
CA-ABC21	2m 3.4db 4' 7" base antenna	59.95	
CA-ABC23	2m 7.8 db 13' 4" base antenna	134.95	119 ⁹⁵
CA-F226F	136-175 6db 8' 10" tunable	141.95	124 ⁹⁵
CA-F726F	440-470 6db 3' 6" tunable ant	119.25	106 ⁹⁵
CA-Super22	220 6.6db 8' 2" base ant	135.00	119 ⁹⁵
CFC-771	900MHz 4.5' 7.14db type N ant	97.40	89 ⁹⁵
CMR-241	2m/440 4.5/7.2db 6.5' base ant	169.95	149 ⁹⁵
CMR-1215	1.2GHz 11db 6.6' type N ant	229.95	209 ⁹⁵
CX-333	2m/220/440 6.5/7.8/9db 10.25' ant .	214.95	194 ⁹⁵
CX-725	6/2m/440 2.15/6.2/8.4db 7.5' base ..	159.95	139 ⁹⁵
CX-902	2m/440/1.2 6.5/9/9db 10' type N	189.95	169 ⁹⁵
CX-903	2m/440/1.2 6.5/9/13.5db 9' 4" N ..	229.95	209 ⁹⁵
CX-908	2m/430/905MHz 5' 4.5/7.2/10db N ..	162.55	152 ⁹⁵
CYA-1216E	1.2GHz 16el 16.6db 4' 5" N beam ..	139.95	129 ⁹⁵
FP-19	900 MHz 16db 7' 4" type N antenna ...	119.95	109 ⁹⁵
GP-21	1.2GHz 14.8db 8.5' N ant/CA-221S ..	164.95	149 ⁹⁵
GPX-2010	2m/440 9.5/13.2db 23' 4" ant	395.95	364 ⁹⁵
NGC-1422B	2m/220 2.15/3.4db 3' 8" ant	119.50	109 ⁹⁵
PYA-913	900MHz 13el 15.8db 4' 8" type N beam .	144.95	129 ⁹⁵

Reg Sale

COMET - continued

CF-360A	1.3-30/50-470MHz UHF w/leads	\$ 69.95	64 ⁹⁵
CF-413A	440/1.2 500/200w N w/leads	68.10	64 ⁹⁵
CF-413B	440/1.2 500/200w N/UHF/N leads ..	68.10	64 ⁹⁵
CF-416A	2m/440 800/500w UHF w/leads	58.70	52 ⁹⁵
CF-416C	2m/440 800/500w N/UHF/N leads ..	58.70	52 ⁹⁵
CF-530	1.3-90/125-470MHz UHF w/leads	69.95	64 ⁹⁵
CF-4130A	440/1.2 500/200w N, no leads	69.00	64 ⁹⁵
CF-4160I	2m/440 800/500w UHF/UHF/N, no leads ..	52.25	49 ⁹⁵
CF-4160J	2m/440 800/500w SO-239, no leads ..	52.25	49 ⁹⁵
CF-4160K	2m/440 800/500w all UHF, no leads .	52.25	49 ⁹⁵
CFX-324A	2m/220/440 600w UHF w/leads	99.95	89 ⁹⁵
CFX-324B	2m/220/440 600w UHF, no leads ..	95.00	84 ⁹⁵
CFX-431A	2m/440/900-1.2 N/UHF/N/N, leads ..	81.95	72 ⁹⁵
CFX-431B	2m/440/900-1.2 N/UHF/UHF/N, leads .	81.95	72 ⁹⁵
CFX-514	HF/2m/440 800/800/500w UHF w/leads ..	79.95	74 ⁹⁵
CFX-514J	HF/2m/440 800/800/500w UHF, no leads ..	75.95	69 ⁹⁵
CFX-4310B	2m/440/900-1.2 NUHF/VN, no leads .	82.95	74 ⁹⁵
CFX-4310C	2m/440/1.2; Kenwood TM-741A/941A ..	82.95	74 ⁹⁵
NGC-1422D	2m/220 100w UHF w/leads	62.70	58 ⁹⁵

HT AND HAND-HELD SCANNER ANTENNAS

CH-32	2m/440 1.75" BNC antenna	\$ 33.95	
CH-72S	2m/440 0/3.2db 15" BNC antenna ...	32.95	
CH-600MX	2m/440/1.2 -2/3.5db 14.5" TNC Δm	49.95	39 ⁹⁵
CH-720C	2m/440 semi-rigid 0/3.8db 18" BNC	37.95	
CH-1200WS	1.2 GHz 5.6db 13" BNC HT ant ..	32.95	
CH-701X	2m/440/900 2/3.4/5.5db 19" BNC ..	48.95	
CH-722SA	2m/440 3/5.5db BNC whip ant	44.95	
CY-1205	1.2 GHz 11db 7" BNC HT beam	41.45	
SH-55	2m/440 1.5/3.2db 15" BNC ant	32.95	
SH-95	2m/440/1.2 1.5/2.15/5.5db BNC ant ..	49.95	

SWR/POWER METERS & MINIMETERS

CD-120	1.8-200 MHz 200w SWR/power meter	\$139.95	124 ⁹⁵
CD-160H	1.6-60 MHz 2kw SWR/power meter .	169.95	149 ⁹⁵
CD-270	140-525 MHz 200w SWR/power	159.95	144 ⁹⁵
CM-200	140-150 MHz minimeter	51.95	46 ⁹⁵
CM-300	220-240 MHz minimeter	51.95	46 ⁹⁵
CM-400	430-450 MHz minimeter	51.95	46 ⁹⁵
CM-400N	430-450 MHz minimeter w/type N ..	55.50	49 ⁹⁵
CM-420	140-150/430-450 MHz minimeter	75.95	69 ⁹⁵
CM-420N	140-150/430-450 MHz type N mini	78.95	69 ⁹⁵
CM-900	900-920 MHz type N minimeter	89.95	79 ⁹⁵
CM-1200	1240-1300 MHz type N minimeter ..	89.95	79 ⁹⁵
CMX-1	1.8-60 MHz 2000w SWR/pwr/rem head	209.95	189 ⁹⁵
CMX-2	1.8-200 MHz 200w SWR/pwr/rem head	199.95	179 ⁹⁵
CMX-3	140-525 MHz 200w SWR/pwr/rem head	189.95	169 ⁹⁵
EKS-3	10' remote head extension cable	23.95	
NGC-2000	140-525 MHz 200w SWR/power	99.95	89 ⁹⁵

ACCESSORIES

CS-290P	1500MHz 150w N lightning protect	\$ 39.95	
CS-400P	500MHz 250w lightning protect	34.95	
CSP-30	Mini speaker w/magnet mt	29.25	
CSP-80	Mini spkr w/mag mt, noise filt, mute	37.95	
CSW-20	0-950MHz coax switch	57.60	49 ⁹⁵
CSW-20N	0-1300MHz type N coax switch	99.95	89 ⁹⁵
ML-7K	Ear mic for Kenwood	99.95	79 ⁹⁵

Communications Specialists (COM)

SS-32P	Programmable CTCSS encoder	\$ 28.95	
SS-32SMP	Hybrid micro-sized encoder	27.95	
TE-64	64-tone CTCSS/burst switch encoder ..	79.95	
TS-32P	32-tone CTCSS prog encoder/decoder .	57.95	
DTD-1	DTMF decoder	59.95	

CONNECTORS

AMPHENOL COAX CONNECTORS (AMP)

83-1SP-1050	Male coax plug (PL-259)	\$ 2.16	
83-1SP	Silver plated coax plug (PL-259)	3.35	
Van Gorden (VAN)	silver plated teflon PL-259	2.99	
83-185	Reducer for RG-58 (UG-175) .....	.71	
83-168	Reducer; RG-59/RG-8X (UG-176) ...	.78	
83-1AP	Right angle adaptor (UG-646)	6.62	
83-1J	Double female adaptor (PL-258)	3.81	
83-1R	Female chassis mt socket (SO-239) ...	2.25	
83-1H	Hood for in-line use (UG-106)	3.84	
83-1T	T-connector adaptor (M-358)	9.43	
83-877	Double male adaptor	9.95	
83-878	Single hole 3/8" chassis socket Δmwv	2.99	1 ⁹⁵
31-002	BNC male connector for RG-58	3.90	

CONNECTORS - continued

31-012	BNC male connector; RG-59/RG-8X ..	4.37	
31-221	BNC female chassis socket ....Δmwfv	2.30	1 ⁹⁵
82-24	Type N female chassis mt socket	5.11	
82-61	Type N male connector for RG-8	8.50	
82-64	Type N right angle adaptor ....Δmwfv	23.10	8 ⁹⁵
82-202-1006	Type N male; Belden 8214/9913 .	8.12	
82-209	Type N female in-line for RG-8	7.16	
34025	Type N male connector for RG-58	6.96	

AMPHENOL COAX ADAPTORS (AMP)

2900	SO-239 to BNC male adaptor	\$ 10.77	
4400	SO-239 to type N male adaptor	14.90	
34125	Type N female - PL-259 adapt Δmwfv	24.13	14 ⁹⁵
45250	Type N double male adaptor ....Δmwfv	16.19	6 ⁹⁵
31-28	BNC female to PL-259 adaptor	10.01	
83-10	SO-239 to Motorola/phono plug	10.84	

AIM COAX CONNECTORS & ADAPTORS (AIM)

25-7302	0-900MHz teflon insulator PL-259 ..	\$ 4.50	
25-7351	Chassis mt SO-239 double female ..	5.60	
25-7365	BNC female to SO-239	4.90	
25-7420	BNC male to SO-239	3.80	
26-8010	Type N double female	5.70	
26-8011	Type N chassis mount	2.70	
26-8015	N male to SO-239	7.90	
26-8016	BNC female to N male	7.90	
26-8017	BNC male to N female	7.90	
27-8110	BNC female to RCA male	5.50	
27-8120	BNC female to PL-259	3.70	
27-8130	BNC double male	4.80	
27-8140	BNC T; 2 female, 1 male	4.40	
27-8142	BNC T, 3 male	8.90	
27-8450	BNC chassis mt, 4 screw holes	3.50	
27-8460	3/8" hole BNC chassis mt	1.90	
27-8470	Dual BNC chassis mount	5.00	
29-4140	SO-239 to mini PL-259	5.50	

SWITCHCRAFT MICROPHONE CONNECTORS (SWI)

480	.206" 3-cond mic plug (PJ-068/Collins) .	\$ 12.50	
S-260	.206" 3-cond mic plug (Drake)	6.65	

Switchcraft 1/4" Plugs w/Solder Terminals (SWI)

267	3-conductor, plastic handle	\$ 4.45	
237	As above, but right angle plug	5.15	
260	3-conductor w/screw terminals	5.05	
297	3-conductor, metal handle	5.35	
250	2-conductor, plastic handle	3.00	
220	As abv, w/screw terminals, rt angle plug	4.40	
280	2-conductor, metal handle	4.45	

SWITCHCRAFT PHONO-TYPE CONNECTORS (SWI)

3501MC	Phono plug with cable clamps	\$.90	
3502	Shielded phono plug	1.75	
3507	RF-type phono plug	2.55	

VANCO MICROPHONE CONNECTORS (VCO)

CBC-3	3-pin female mic plug	\$ 3.27	
CBC-4	4-pin female mic plug	4.04	
CBC-4P	Panel mt 4-pin male	2.21	
CBC-5	5-pin female mic plug	3.87	
CBC-5P	Panel mt 5-pin male	2.21	
CBC-6	6-pin female mic plug	4.06	
CBC-8	8-pin female mic plug	5.89	
CBC-8P	Panel mt 8-pin male	5.57	

KENWOOD DIN PLUGS (KEN)

7-pin DIN plug	.....	\$ 3.92	
8-pin DIN plug	.....	4.51	
13-pin DIN plug	.....	6.76	
CBC-7	7-pin female mic plug	5.89	

CONNECTORS - continued

	Reg	Sale
VANCO MINI PHONE PLUGS (VCO)		
P-25 2.5mm sub-miniature phone plug	\$.99	
P-35 3.5mm miniature phone plug .....	.99	
P-12V Cig lighter plug w/leads	2.91	

Connect Systems (CSY)

CS-700 Simplex interconnect	\$329.00	299 ⁹⁵
CS-800 Full duplex patch & repeater controller ..	349.00	319 ⁹⁵
CS-900 Simplex interconnect	379.00	349 ⁹⁵
Private Patch V Multi-mode interconnect	533.25	489 ⁹⁵
8200 Full duplex patch & repeater controller ..	550.00	529 ⁹⁵
CS-1688 Deluxe DTMF decoder/controller	149.00	

COYNE (COY)

HAM RADIO TEST GENERATOR FOR MACINTOSH

MacHam no code Technician, includes Novice 2A	\$ 39.95
MacHam General	34.95
MacHam Advanced	34.95
MacHam Extra	34.95
MacHam Radio Morse Code training software	39.95

CROSS DEVICE (CRS)

STUF Coax connector waterproofing filler	\$ 4.50
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CROWN METAL (CRO)

SOLID BASE COPPERWELD ANTENNA WIRE

AN-122 100 feet No. 12	\$ 24.95	
AN-123 150 feet No. 12	29.95	
AN-124 250 feet No. 12	49.95	
AN-126 500 feet No. 12	84.95	
AN-128 1000 feet No. 12	154.95	139 ⁹⁵
AN-142 100 feet No. 14	19.95	
AN-143 150 feet No. 14	24.95	
AN-144 250 feet No. 14	29.95	
AN-146 500 feet No. 14	54.95	
AN-148 1000 feet No. 14	104.95	99 ⁹⁵
AN-181 250 feet No. 18	14.95	
AN-182 500 feet No. 18	24.95	

CUSHCRAFT (CUS)

VHF/UHF FM BEAMS (Vertical polarization)

A148-3S 2m, 3 el wideband beam	\$ 45.00	42 ⁹⁵
A148-10S 2m, 10 el wideband beam	80.00	69 ⁹⁵
A147-20T 2m FM/SSB twist, 12 db	118.00	94 ⁹⁵
A148-20S 2 A148-10S vert stacked	220.00	179 ⁹⁵
A449-6 440 MHz, 6 el, 3' boom, 10 db ..Dmwv	56.00	49 ⁹⁵
A449-6S 440 MHz, 6 el, 3' boom, 10 db	56.00	52 ⁹⁵
A449-11S 440 MHz, 11 el, 4.5' boom, 13 db ..	81.00	72 ⁹⁵

FM VERTICAL STACKING KITS* (Adds 3 db)

A14-VPK Stacking kit for 2 A147-4	Dmwf	\$ 61.00	49 ⁹⁵
A14-SK Harness only for 2 A148-3S		45.00	
A147-VPK Stacking kit for 2 A147-11	Dmwv	101.00	79 ⁹⁵
A148-VPKS Stacking kit for 2 A148-3S/10S ..		101.00	89 ⁹⁵
A147-SK Harness only for 2 A147-11	Dmwf	45.00	29 ⁹⁵
A148-SK Harness only for 2 A148-10S		45.00	
A220-VPK Stacking kit; 2 A220-11	Dmfv	55.00	14 ⁹⁵
A449-VPK Stacking kit; 2 A449-6/11	Dmwf	61.00	49 ⁹⁵
A449-VPKS Stacking kit; 2 A449-6S/11S		61.00	
A449-SK Harness only for 2 A449-6S/11S		45.00	

*Prices are for stacking kits only

FM RINGOS - 1/2 Wave Verticals - 3.75 db

AR-10 10m FM Ringo, 1000w	\$ 67.00	59 ⁹⁵
AR-6 6m FM, 1000w	67.00	59 ⁹⁵
AR-2 2m FM, 1000w	47.00	39 ⁹⁵
AR-220 220 MHz FM, 500w	46.00	38 ⁹⁵
AR-450 440 MHz FM, 500w	46.00	38 ⁹⁵
AR-270 2m/440 MHz FM, 250w, 3.7/5.5db ..	86.00	72 ⁹⁵
AR-270B 2m/440 MHz FM base ant	125.00	99 ⁹⁵

RINGO RANGERS - FM Verticals - 6 db

ARX-2 2m FM Ringo Ranger	\$ 57.00	49 ⁹⁵
ARX-2B 2m FM Ringo Ranger II, 1000w	69.00	59 ⁹⁵
ARX-220B 220 FM Ringo Ranger II, 500w	69.00	59 ⁹⁵
ARX-450B 440 FM Ringo Ranger II, 500w	69.00	59 ⁹⁵
ARX-450BN 440 FM Ringo Ranger II w/type N ..	83.00	69 ⁹⁵

HIGH PERFORMANCE 2m/440 VERTICALS

ARX-270N 2m/440 9/12 db fg type N ant	\$268.00	209 ⁹⁵
ARX-270U 2m/440 9/12 db fg SO-239 ant	268.00	209 ⁹⁵

CUSHCRAFT - continued

FM 4-POLES (less vertical support mast)

AFM-4DA 2m FM, 23' high, 6/9 db	\$138.00	109 ⁹⁵
AFM-24DA 220 MHz FM, 15' high, 6/9 db	123.00	99 ⁹⁵
AFM-44DA 440 MHz FM, 8' high, 6/9 db	107.00	89 ⁹⁵

TWIST, OSCAR BEAMS (Horiz/Vert Polarization)

A144-10T 2m, 10 el, 5' boom, 10 db	\$101.00	84 ⁹⁵
A144-20T 2m, 20 el, 10' boom, 12 db	145.00	119 ⁹⁵
A147-20T 2m FM/SSB, 10' boom, 12 db	118.00	94 ⁹⁵
416TB 432 twist Boomer, 16el, 6'boom, 12db	119.00	99 ⁹⁵
PS-4 Remote polarity switch, needs 12vdc ..	147.00	114 ⁹⁵
A14T-MB Oscar mtg boom & bracket	48.00	

AOP-1 Oscar pack; A144-20T/416TB/A14T-MB ..	294.00	229 ⁹⁵
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BOOMER ANTENNAS

617-6B 6m Boomer, 6 el, 34' boom, 14 db	\$399.00	309 ⁹⁵
124WB 2m Boomer, 4 el, 4' boom, 10.2 db	69.00	62 ⁹⁵
13B2 2m Boomer, 13 el, 15' boom, 15.8 db	135.00	109 ⁹⁵
17B2 2m Boomer, 17 el, 31' boom, 18 db	232.00	179 ⁹⁵
26B2 2 13B2s vertically stacked	382.00	299 ⁹⁵
220B 220 Boomer, 17 el, 19' boom, 17 db	181.00	149 ⁹⁵
224WB 220 Boomer, 4 el, 3' boom, 10.2db	66.00	58 ⁹⁵
225WB 220 wideband Boom, 15el, 10'bm, 15.5db	140.00	114 ⁹⁵
416TB 432 twist Boomer, 16 el, 6' boom, 12db	119.00	99 ⁹⁵
PS-4 Remote polarity switch, needs 12vdc ..	147.00	114 ⁹⁵
424B 432 Boomer, 24 el, 17.5' boom, 18 db ..	155.00	124 ⁹⁵

BOOMER STACKING KITS*

617-SK Harness, pwr divider for 2 617-6Bs ..	\$149.00	129 ⁹⁵
324-QK Quad stacking kit for 4 32-19s ..Dmfv	575.00	169 ⁹⁵
22-SK Harness, power divider; 2 13B2s	91.00	79 ⁹⁵
22N-SK Harness, pwr divider; 2 17B2s	149.00	129 ⁹⁵
26B2-VPK Vertical polar kit; 2 13B2s	196.00	159 ⁹⁵
230-VPK Vert polarity kit; 2 215WBs .....Dwfv	185.00	69 ⁹⁵
224-QK Quad stack kit; 4 215WBs/214Bs Dwf	390.00	149 ⁹⁵
42-SK Harness, pwr divider; 2 4218XLs ....Dm	90.00	49 ⁹⁵
220-SK Harness, power divider for 2 220Bs ..	91.00	79 ⁹⁵
220-QK Quad stacking kit for 4 220Bs ....Dwf	390.00	149 ⁹⁵
PD-2 Power divider for 2 13B2s	45.00	
PD-2N Power divider for 2 17B2s	85.00	74 ⁹⁵
PD-4 Power divider for 4 13B2s	57.00	
PD-4N Power divider for 4 17B2s	106.00	94 ⁹⁵
PD-222 Power divider for 2 220 Boomers	45.00	
PD-224 Power divider for 4 220 Boomers	57.00	

*Prices are for stacking kits only

VHF/UHF BEAMS (Horizontal polarization)

A50-3S	6m, 3 el, 6' boom, 8 db, stainless hdwre	\$103.00	89 ⁹⁵
A50-5S	6m, 5 el, 12' boom, 10 db, stainless hdwre	170.00	134 ⁹⁵
A50-6S	6m, 6 el, 20' boom, 11db, stainless hdwre	276.00	209 ⁹⁵
A144-7	2m, 7 el, 8' boom, 10 db	Dmw	56.00
A144-7S	2m, 7 el, 8' boom, 10 db		56.00
A144-11	2m, 11 el, 12' boom, 11 db ..Dmfv	80.00	49 ⁹⁵
A148-10S	2m, 10 el wideband beam	80.00	69 ⁹⁵
A430-11	430 MHz, 11 el, 4' bm, 13db Dmfv	81.00	49 ⁹⁵
A430-11S	430 MHz, 11 el, 4' boom, 13 db	81.00	69 ⁹⁵

HORIZONTAL STACKING KITS* (Adds 3 db)

A535-SK For 2 A50-3S/5S	\$ 45.00	
A561-SK For 2 A50-6S	59.00	
A17-SK For 2 A144-7S, 79" spacing	45.00	
A11-SK For 2 A144-11, 79" spacing ..Dmfv	45.00	29 ⁹⁵
A148-SK Harness only for 2 A148-10S	45.00	
A41-SK For 2 A430-11S, 26" spacing	45.00	

*Prices are for stacking kits only

CUSHCRAFT/SIGNALS MOBILE ANTENNAS

CS-28M 10m magnet mt antenna	\$ 64.00	59 ⁹⁵
CS-50 6m 3/4" hole mt 3 db antenna	55.00	49 ⁹⁵
CS-50M 6m magnet mt 3 db antenna	64.00	59 ⁹⁵
CS-50T 6m trunk lip mt 3 db antenna	64.00	59 ⁹⁵
CS-1147M 2m 3/4" wave magnet mt antenna ...	42.00	39 ⁹⁵
CS-147 2m 3/4" hole mt 3 db antenna	55.00	49 ⁹⁵
CS-147M 2m magnet mt 3 db antenna	64.00	59 ⁹⁵
CS-147T 2m trunk lip mt 3 db antenna	64.00	59 ⁹⁵
CS-147A 2m coil & whip only	43.00	39 ⁹⁵
CS-220 220 3/4" hole mt 3 db antenna	55.00	49 ⁹⁵
CS-220M 220 magnet mt 3 db antenna	64.00	59 ⁹⁵
CS-220T 220 trunk lip mt 3 db antenna	64.00	59 ⁹⁵
CS-1450M 440 3/4" wave magnet mt antenna ..	42.00	39 ⁹⁵
CS-450 440 3/4" hole mt 5 db antenna	55.00	49 ⁹⁵
CS-450M 440 magnet mt 5 db antenna	64.00	59 ⁹⁵

CUSHCRAFT - continued

CS-450T 440 trunk lip mt 5 db antenna	64.00	59 ⁹⁵
CS-450A 440 coil & whip only	43.00	39 ⁹⁵
CS-270M 2m/440 3.7/6 db magnet mt ant ...	88.00	72 ⁹⁵
CS-270A 2m/440 coil & whip only	43.00	39 ⁹⁵

MOUNTS ONLY FOR ABOVE MOBILE ANTENNAS

CS-M6 Magnetic mount	\$ 29.00	
CS-TL Trunk lip mount	29.00	

PORTABLE ANTENNAS

BN-220RC 220 2" BNC duck; lcom/Yae ....Dm	\$ 19.00	8 ⁹⁵
BN-440RC 440 2" BNC duck; lcom/Yae ....Dm	19.00	8 ⁹⁵

PORTABLE ANTENNAS FOR KENWOOD

TK-141S 2m 3" TK duck for Kenwood ....Dmw	\$ 17.00	8 ⁹⁵
TK-220B 220 6" TK duck for Kenwood ....Dm	17.00	8 ⁹⁵
TK-220C 220 3" TK duck for Kenwood ....Dm	17.00	8 ⁹⁵
TK-440B 440 6" TK duck for Kenwood ....Dm	17.00	8 ⁹⁵

SKYWALKER HF BEAMS

40-2CD 40m, 2 el, 23' boom, 5.5 db	\$584.00	439 ⁹⁵
20-4CD 20m, 4 el, 32' boom, 10 db	584.00	439 ⁹⁵
20-3CD 20m, 3 el, 20' boom, 8 db	409.00	309 ⁹⁵
15-4CD 15m, 4 el, 20' boom, 10 db	330.00	249 ⁹⁵
15-3CD 15m, 3 el, 14' boom, 8 db	284.00	219 ⁹⁵
10-4CD 10m, 4 el, 16' boom, 10 db	279.00	209 ⁹⁵
10-3CD 10m, 3 el, 10' boom, 8 db	217.00	169 ⁹⁵
TEN-3 10m, 3 el, 8' boom, 8 db	140.00	109 ⁹⁵

MULTIBAND VERTICAL ANTENNAS

AV-5 80/40/20/15/10m 25' vertical	\$206.00	159 ⁹⁵
AV-3 20/15/10m 14' vertical	115.00	89 ⁹⁵
AP-8A 80-10m 8-band ruggedized vertical ...	273.00	209 ⁹⁵
APR-18A Radial kit	64.00	59 ⁹⁵
R-5 20/17/15/12/10m half wave vert	382.00	289 ⁹⁵
R-7 40/30/20/17/15/12/10m vertical	510.00	379 ⁹⁵

ROTATABLE DIPOLES

D-3 20/15/10m World Ranger dipole	\$227.00	179 ⁹⁵
D-3W 30/17/12m rotatable dipole	232.00	184 ⁹⁵
D-4 40/20/15/10m World Ranger dipole	309.00	239 ⁹⁵
D-40 40m World Ranger dipole	276.00	209 ⁹⁵

MULTIBAND BEAM ANTENNAS

A-3S 20/15/10m, 3el, 14'bm, 8db, stainless hdwre	\$474.00	329 ⁹⁵
A-743 40m or 10 MHz add-on kit; A-3/A-3S	150.00	129 ⁹⁵
A-4S 20/15/10m, 4el, 18'bm, 9db, stainless hdwre	567.00	399 ⁹⁵
A-744 40m or 10 MHz add-on kit; A-4/A-4S	150.00	129 ⁹⁵
A-3WS 17 & 12m, 3 el, 14' boom, 8 db	371.00	279 ⁹⁵
A-103 30m add-on kit for A-3WS	150.00	129 ⁹⁵
AFB-2 160-10m 9-band balun	59.00	49 ⁹⁵

LIGHTNING ARRESTORS

LAC-1 SO-239/PL-259 coax arrester	\$ 12.00	
LAC-2 SO-239/SO-239 coax arrester	12.00	
LAC-4 200w SO-239 gas tube arrester	40.00	36 ⁹⁵
LAC-4H 2kw SO-239 gas tube arrester	44.00	39 ⁹⁵
LAC-4N 200w type N gas tube arrester	52.00	46 ⁹⁵
LAC-4NH 2kw type N gas tube arrester	54.00	48 ⁹⁵
LC-2 Extra 200w cartridge for LAC-4/4N	17.00	
LC-2KW Extra 2kw cartridge for LAC-4H/4NH	19.00	

5VB Vinyl connector boots	pack of 5	12.00
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DC SALES (DCS)

Tenna Hitch Antenna mount for trailer hitch ..	\$ 32.95
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DRSI (DRS)

PCPA-1 Packet adapter plug-in card for IBM	\$149.95	
HF Modem External HF modem for PCPA-1 or 3	89.95	
PCPA-2 Dual modem VHF packet adapter; IBM ..	179.95	
PCPA-3 Dual serial packet adapt; IBM Dmwf	149.95	99 ⁹⁵
HF Modem (PCPA-3 uses 2 for BBS)	89.95	
DCD-3105 Open squelch DCD adapter	31.95	
M-2400 2400 baud VHF modem; PCPA1/3 Dmfv	149.95	119 ⁹⁵
DPK-2 1200 baud packet radio TNC	114.95	
DPK-9600 9600 baud packet radio TNC	249.95	
Radio cable	9.95	
RS-232 cable	12.95	

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DIAMOND (DIA)

METERS

SX-100	1.6-60 MHz 30/300/3kw PEP meter ...	\$159.95	149 ⁹⁵
SX-200	1.8-200 MHz 5/20/200w PEP meter ..	129.95	119 ⁹⁵
SX-400	140-525 MHz 5/20/200w PEP meter ..	149.95	139 ⁹⁵
SX-600	Dual band 1.8-160/140-525 200w PEP meter ..	249.95	229 ⁹⁵
SX-1000	1.8-160/430-1300MHz 200w PEP meter ..	279.95	259 ⁹⁵
SX-9000	1.8-160/430-1300MHz auto meter ..	299.95	279 ⁹⁵

MOBILE ANTENNAS

CR-214S	2m/220 2.1/3.4db 37" mobile ant ..	\$ 59.95	54 ⁹⁵
CR-214SNMO	2m/220 2.1/3.4db 38" NMO Dmwf	69.95	49 ⁹⁵
CR-224A	2m/220 5/6db 69" mobile antenna	104.95	94 ⁹⁵
CR-320A	2m/220/440 2.15/3.8/5.5db 36"	93.95	88 ⁹⁵
D-505	PO-mt, 5-1500 MHz active rcv ant	139.95	129 ⁹⁵
NR-22L	2m 6.5db 97" mobile antenna ..Dmwf	89.95	79 ⁹⁵
NR-72BNMO	Black 2m/440 2.15db 14" NMO ..	44.95	42 ⁹⁵
NR-73BNMO	Blk 2m/440 2.15/5.5db 34" NMO ..	59.95	54 ⁹⁵
NR-124	1.2GHz 8.4db 25" type N mobile ant ..	63.95	59 ⁹⁵
NR-140A	220 4db 37" mobile antenna	57.95	52 ⁹⁵
NR-770HA	2m/440 3/5.5db 40" mobile ant ...	59.95	54 ⁹⁵
NR-770HNM	2m/440 3/5.5db 40" NMO mobile ..	61.95	56 ⁹⁵
NR-770RA	2m/440 3/5.5db 39" mobile ant ...	59.95	54 ⁹⁵
NR-790A	2m/440 4.5/7.2db 57" mobile ant ..	89.95	84 ⁹⁵
NR-2000NA	2m/440/1.2 3/6/9.7db 39" N mob ..	87.95	82 ⁹⁵
SG-2000A	2m 5.2db 62" mobile antenna	85.95	79 ⁹⁵
SG-7200NMO	2m/440 3.2/5.7db 38" NMO ant ..	84.95	79 ⁹⁵
SG-7500A	2m/440 3.5/6db 41" mobile ant ...	82.95	78 ⁹⁵
SG-7900A	2m/440 5/7.6db 62" mobile ant ...	118.95	109 ⁹⁵
RH-77CA	2m/440 15" BNC rubber gain ant ...	32.95	29 ⁹⁵
RH-951	2m/440/1.2GHz 15" BNC rubber ant ..	54.95	49 ⁹⁵

MOBILE MOUNTS

DP-SPM/5D	Hvy duty mag mt, cable; 45" max	\$ 43.95	
DP-SPM/58U	Mag mt w/RG-58U; 45" max	41.95	
DPK-4NM-M	Hvy mag mt, Yaesu N, 45" max ..	49.95	
DPK-5NM	Hvy duty mag mt, cbl, type N, 45" max ..	56.95	
FE-5M	Two-stage coax & SO-239 mtg group ..	38.95	
GLP-5	UHF base mtg group hrdwr; mini coax	9.95	
GLP-5N	UHF mtg grp hrdwr; mini coax, Yae N	10.95	
GLP-58	UHF base mounting group hardware ..	9.95	
K-200	Folding hatch/tnk mt; NR/SG ants	41.95	
K-200KM	Folding hatch/tnk mt/coax; NR/SG ..	69.95	
K-300	Folding gutter mt; NR/SG antennas ..	37.95	
K-300KM	Folding gutter mt w/coax; NR/SG	64.95	
K-300M	Gutter mt w/cable; NR/SG ants	79.95	
K-400	Hatch/trunk mt; NR/SG antennas	39.95	
K-400K-3/8M	Mount w/cable; 3/8-24 thread	74.95	
K-400M	Hatch/trunk mt w/cable; NR/SG ants ..	78.95	
K-400NMO	Dlx hatch/trunk mt w/cable; NMO ..	64.95	
K-540	Mirror/luggage rack mount	37.95	
K-540KM	Mirror/luggage rack mt w/coax	64.95	
K-600M	Tilt angle trunk mt w/cable	68.95	
K-600N	Tilt angle tnk mt w/type N, cable	74.95	
K-600P	Tilt angle trunk mt w/cable, Yaesu N ..	72.95	
NMO-UHF	Adapter to NMO; not for SG, 45" max ..	22.95	
Larsen PO-K	Roof mt, coax; NR/SG ants, 45" max ..	23.00	

Reg Sale

DIAMOND - continued

Larsen PO-TLM Tnk mt, coax; NR/SG ants

Reg Sale

BASE STATION ANTENNAS

CP-4A	40/20/15/10m 11' 200w PEP vert ..Dmw	\$259.95	199 ⁹⁵
CP-5	80/40/20/15/10m 14.7' 200w PEP vert Dw	309.95	239 ⁹⁵
CP-6	80/40/20/15/10/6m 15' 200w PEP vert Dmw	324.95	249 ⁹⁵
D-130J	25-1300 MHz 200w discone ant	96.95	89 ⁹⁵
D-707E	.5-1500 MHz base active rcv ant	179.95	169 ⁹⁵
DP-GH62	6m 6db 21' base antenna	149.95	139 ⁹⁵
F-22A	2m 6.7db 10.5' base antenna	109.95	99 ⁹⁵
F-22J	143.5-146.5MHz 6.7db 10.5' base ant	109.95	99 ⁹⁵
F-23A	2m 7.8db 15' base antenna	164.95	154 ⁹⁵
F-23C1	148-154MHz 7.8db 15' comm base ..	175.00	164 ⁹⁵
F-23J	143.5-146.5MHz 7.8db 15' base ant ..	164.95	154 ⁹⁵
F-142A	220 MHz 5.5db 6' base antenna	129.95	119 ⁹⁵
F-718A	440 11.5db 15' type N base antenna	234.95	214 ⁹⁵
F-718C2	460-472MHz 11.5db 15' N comm ...	249.00	229 ⁹⁵
F-718J	428-442MHz 11.5db 15' N base ant ...	234.95	214 ⁹⁵
F-718L	420-430MHz 11.5db 15' N base ant ..	234.95	214 ⁹⁵
F-1230A	1.2GHz 13.5db 10.5' type N base ant ..	169.95	159 ⁹⁵
U-200	440/1.2GHz 8.3/11.7db 6' N base ant ..	134.95	124 ⁹⁵
U-300A	440/1.2GHz 8.6/13.2db 8.3' N base ant ..	169.95	159 ⁹⁵
U-5000A	2m/440/1.2GHz 4.5/8.3/11.7db 6' N	159.95	149 ⁹⁵
V-2000A	52-54MHz/2m/440 2.1/6.2/8.4db 8.3'	164.95	154 ⁹⁵
X-50A	2m/440 4.5/7.2db 5.6' base antenna ..	119.95	109 ⁹⁵
X-200A	2m/440 6/8db 8.3' base antenna	159.95	149 ⁹⁵
X-300A	2m/440 6.5/9db 10.2' base ant	174.95	164 ⁹⁵
X-500HNA	Hvy duty 2m/440 8.3/11.7db 17.8' N ant ..	257.95	236 ⁹⁵
X-510MA	2m/440 8.3/11.7db 17.2' base ant ..	209.95	189 ⁹⁵
X-510NA	2m/440 8.3/11.7db 17.2' type N ant ..	209.95	189 ⁹⁵
X-510NJ	143.5-146.5/428-442MHz 17.2' N ...	209.95	189 ⁹⁵
X-700HA	2m/440 9.3/13db 24' base ant	419.95	379 ⁹⁵
X-2200A	2m/220 6/7.8db 11.5' base ant	174.95	164 ⁹⁵
X-3200A	2m/220/440 6/7.8/8db 10' base	229.95	209 ⁹⁵
X-6000A	2m/440/1.2 6.5/9/10db 10.5' N	209.95	189 ⁹⁵

DUPLEXERS

MX-37MB	HF-440/1.2 100/50w SO-239 Dmv	\$ 79.95	59 ⁹⁵
MX-37N	HF-440/1.2 100/50w type N duplexer	63.95	59 ⁹⁵
MX-72D	HF-2m/440 400/150/100w duplexer	51.95	
MX-72DN	As MX-72D, w/type N on 440	59.95	54 ⁹⁵
MX-72H	As MX-72D, w/12" cables	55.95	
MX-72N	As MX-72D, type N on 440, 12" cables ..	55.95	
MX-214	2m/220 150/100w w/12" cables	69.95	64 ⁹⁵
MX-324	2m/220/440 triplexer	109.95	99 ⁹⁵
MX-2000	HF-6m/2m/440 400/400/250w triplexer	97.95	92 ⁹⁵
MX-3000	HF-2m/440/1.2 400/200/100w triplexer	94.95	89 ⁹⁵
MX-3000D	As MX-3000, no cables	94.95	89 ⁹⁵
MX-3000DN	As MX-3000, type N on 440, 1.2 ..	94.95	89 ⁹⁵
MX-3000N	As MX-3000, type N, 12" cables ...	94.95	89 ⁹⁵

ACCESSORIES

CA-23R	DC-1000MHz 200w N lightning protect	\$ 39.95	
CA-35R	DC-500MHz 400w lightning protect ..	34.95	
CM-2	BNC HT ant clip w/8" mini coax ....Dmw	17.95	12 ⁹⁵
CX-210A	1.5kw DC-1000MHz coax switch	49.95	
CX-210N	1.5kw DC-1500MHz N coax switch ..	89.95	84 ⁹⁵
DL-30A	15/100w peak 0-500MHz dummy .. Dwfv	29.95	
DL-30N	15/100w peak 0-500MHz N dummy ..	48.80	

DIAMOND - continued

Reg Sale

HB-400	HT air vent dash mount	18.95	
HB-500	Remote head air vent dash mount	21.95	
SM-505KTS	Spkr/mic for Kenwood TR-2500 ..	37.95	
SW-2	2-pos 0-500MHz coax switch ....Dmwf	28.95	24 ⁹⁵

Diamond Systems (DSY)

IBM LICENSE COURSE; THEORY/REGULATIONS/CODE

DSI-IBM-N	Novice Class License software	\$ 49.95	39 ⁹⁵
DSI-IBM-T	Technician Class License software ..	44.95	34 ⁹⁵
DSI-IBM-NC	No Code Tech Class License software ..	59.95	49 ⁹⁵
DSI-IBM-G	General Class License software ...	44.95	34 ⁹⁵
DSI-IBM-A	Advanced Class License software	59.95	49 ⁹⁵
DSI-IBM-E	Extra Class License software	59.95	49 ⁹⁵

DIGIMAX (DIG)

D-500	512 MHz 8-digit counter - 1 PPM	\$149.95	139 ⁹⁵
D-510A	1 GHz 8-digit counter - 1 PPM	179.95	159 ⁹⁵
D-612	1.2 GHz 9-digit counter - .1 PPM	259.95	239 ⁹⁵
D-1200	1.2 GHz 9-dig .1 PPM ctr/audio mult	299.95	269 ⁹⁵
AC-12	9vdc adaptor	8.95	
AM-12	10X/100X audio multiplier	39.95	
AM-500X	X10/X100 audio multiplier ....Δmfv	69.95	39 ⁹⁵
B-12	Dry cell holder, switch for D-612	10.95	
BAC-5	Nicad batt pack for D-500/D-510A	29.95	
BAC-12	Nicad batt pack; D-612/D-1200	34.95	
RF-500X	Inline RF sampler, 250w maximum ..	39.95	
T-1200	21" BNC telescopic antenna	8.95	

DRAKE (DRA)

R-8	1290 World band shortwave receiver	\$979.00	
1590	35-55, 108-174 MHz VHF converter ...	199.00	
1591	Interface software for computers	59.00	
MS-8	1592 Speaker	49.00	
7850	R-8 technical manual	39.95	

EIMAC TRANSMITTING TUBES (EIM)

3-400Z/8163	.....	\$199.00	
3-500Z	.....	183.00	
3-1000Z/8164	.....	764.00	
3CX800A7	.....	412.00	
3CX1200A7	.....	665.00	
4-400A/8438	.....	208.00	
4CX250B/7203	.....	131.00	
4CX1000A/8168	.....	711.00	
4X150A/7034	.....	148.00	
8873	.....	458.00	
8874/3CX400A7	.....	415.00	
8875	.....	499.00	
8877/3CX1500A7	.....	935.00	

Also see TUBES

FORBES GROUP (FOR)

VT-14	2m Ventenna 3' 2.6 db base ant	\$ 49.95	44 ⁹⁵
VT-22	220 Ventenna 25" 2.6 db base ant	49.95	44 ⁹⁵
VT-27	2m/440 Ventenna base antenna	74.95	66 ⁹⁵
VT-44	440 Ventenna 14" 2.6 db base ant	49.95	44 ⁹⁵
VT-15S	Scanner Ventenna 3' 2.6 db base ant ..	49.95	44 ⁹⁵
VT-SWL	SWL Ventenna 3' 20db active rcv ant	129.95	119 ⁹⁵

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FAX: (414) 358-3337

AMATEUR ELECTRONIC SUPPLY Inc.

5710 W. Good Hope Road; Milwaukee, WI 53223 • Phone (414) 358-0333

AES® Store Locations

Phone

Toll Free

FAX

Milwaukee, WI	53223; 5710 W. Good Hope Road	(414) 358-0333	1-800-558-0411	(414) 358-3337
Wickliffe, OH	44092; 28940 Euclid Avenue	(216) 585-7388	1-800-321-3594	(216) 585-1024
Orlando, FL	32803; 621 Commonwealth Avenue	(407) 894-3238	1-800-327-1917	(407) 894-7553
Clearwater, FL	34625; 1898 Drew Street	(813) 461-4267		(813) 443-7893
Las Vegas, NV	89106; 1072 N. Rancho Drive	(702) 647-3114	1-800-634-6227	(702) 647-3412

Gamber-Johnson (GAM)

SS-100 Super slide mount w/ant plug	\$ 72.26	49 ⁹⁵
SS-101 Extra base for SS-100	29.75	

GAP Verticals (GAP)

DX-VIII 80/40/20/15/12/10/6/2m, 31.5'	\$259.00	
(SYN) 100' 3/4" black double braided rope	6.95	
DX-VI 40/20/17/15/12/10m 21.5', rigid	269.00	
DX-IV 160/80/40/20m 45'; needs 350' guy	399.00	
(SYN) 350' 3/4" black double braided rope	39.95	

We do NOT carry GAP antennas at Wickliffe, Ohio.

GOLD LINE (GOL)

1043 Signal Hunter 10m direction finding ant ..	\$ 55.00	49 ⁹⁵
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GRUNDIG (GRU)

Satellit 700 AC/DC/batt AM/FM/SW/LW Rcvr ..	\$699.95	499 ⁹⁵
Cosmopolit Portable AM/FM/SW/LW Rcvr	249.95	219 ⁹⁵
Traveller II Port AM/FM/SW/LW Rcvr/clock	109.95	99 ⁹⁵
Yacht Boy 206 Portable AM/FM/SW/LW Rcvr ..	139.95	129 ⁹⁵
Yacht Boy 220 Port AM/FM/SW/LW Rcvr ....Dmv	129.95	89 ⁹⁵
Yacht Boy 230 Port AM/FM/SW/LW Rcvr .. Dmw	199.95	129 ⁹⁵
Yacht Boy 235 Portable AM/FM/SW/LW Rcvr ..	159.95	139 ⁹⁵
Yacht Boy 400 Portable AM/FM/SW/LW Rcvr ..	269.95	249 ⁹⁵

HEIL (HEI)

PRO-SET-4 Deluxe boom mic/headset/HC-4 ..	\$122.00	
PRO-SET-5 Deluxe boom mic/headset/HC-5 ..	122.00	
AD-1-I Adapter cord for Icom	13.00	
AD-1-K Adapter cord for Kenwood	13.00	
AD-1-Y Adapter cord for Yaesu	13.00	

BM-5-4 Boom mic/single headset (HC-4)	64.90	
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BM-5-5 Boom mic/single headset (HC-5)	64.90	
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BM-5-4-I Bm mic/single headset; Icom (HC-4) ..	69.90	
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BM-5-4-K Bm mic/single headset; Kenwood (HC-4) ..	69.90	
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BM-5-4-T Bm mic/sgl headset; Ten-Tec (HC-4) ..	69.90	59 ⁹⁵
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BM-5-4-Y Bm mic/single headset; Yaesu (HC-4) ..	69.90	
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BM-5-5-I Bm mic/single headset; Icom (HC-5) ..	69.90	
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BM-5-5-K Bm mic/single headset; Kenwood (HC-5) ..	69.90	
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BM-5-5-T Bm mic/sgl headset; Ten-Tec (HC-5) ..	69.90	59 ⁹⁵
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BM-5-5-Y Bm mic/single headset; Yaesu (HC-5) ..	69.90	
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BM-10-4 Boom mic/headset (HC-4)	71.90	
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BM-10-5 Boom mic/headset (HC-5)	71.90	
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BM-10-4-I Boom mic/headset; Icom (HC-4)	85.90	
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BM-10-4-K Boom mic/headset; Kenwood (HC-4)	85.90	
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BM-10-4-Y Boom mic/headset; Yaesu (HC-4)	85.90	
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BM-10-5-I Boom mic/headset; Icom (HC-5)	85.90	
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BM-10-5-K Boom mic/headset; Kenwood (HC-5) ..	85.90	
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BM-10-5-T Bm mic/headset; Ten-Tec (HC-5) ..	85.90	74 ⁹⁵
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BM-10-5-Y Boom mic/headset; Yaesu (HC-5) ..	85.90	
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FS-1 Foot switch	24.95	
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HS-1 Hand switch	19.95	
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HC-4 DX'er's 'dream machine' mic element ...	28.90	
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HC-5 Mic element for Icom SM-5/SM-6	28.90	
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HM-10-4-I Microphone for Icom (HC-4)	85.90	
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HM-10-4-K Microphone for Kenwood (HC-4) ..	85.90	
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HM-10-4-T Mic for Ten-Tec (HC-4)	85.90	74 ⁹⁵
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HM-10-4-Y Microphone for Yaesu (HC-4)	85.90	
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HM-10-5-I Microphone for Icom (HC-5)	85.90	
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HM-10-5-K Microphone for Kenwood (HC-5) ..	85.90	
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HM-10-5-Y Microphone for Yaesu (HC-5)	85.90	
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HM-10-Dual-I Microphone for Icom	131.90	
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HM-10-Dual-K Microphone for Kenwood	131.90	
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MA-1 Clamp and arm for HM-10	49.95	
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TB-1 Table base mic stand for HM-10	12.95	
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B-4 Microphone boom (HC-4)	41.90	
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B-5 Microphone boom (HC-5)	41.90	
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B-4-I Microphone boom; Icom (HC-4)	47.90	
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B-4-K Microphone boom; Kenwood (HC-4)	47.90	
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B-4-T Mic boom; Ten-Tec (HC-4)	47.90	39 ⁹⁵
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B-4-Y Microphone boom; Yaesu (HC-4)	47.90	
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B-5-I Microphone boom; Icom (HC-5)	47.90	
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B-5-K Microphone boom; Kenwood (HC-5)	47.90	
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B-5-T Mic boom; Ten-Tec (HC-5)	47.90	39 ⁹⁵
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B-5-Y Microphone boom; Yaesu (HC-5)	47.90	
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CC-1-I Cable for Icom	21.90	
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CC-1-K Cable for Kenwood	21.90	
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CC-1-Y Cable for Yaesu	21.90	
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HEIL - continued

SA-1 5w sound system w/active EQ	89.90	
FL-1 Flexlite	Dmwf	22.90 14 ⁹⁵
FL-2 Flexlite	Dmwv	32.50 24 ⁹⁵
Ham Radio Handbook	10.00	
Ear Pads	pair	5.00
Boom Clip	5.00	

HUSTLER (HUS)

RM-80 80m CW 400w PEP resonator	\$ 26.95	
RM-75 75m phone 400w PEP resonator	26.95	
RM-40 40m 400w PEP resonator	24.95	
RM-30 30m 400w PEP resonator	24.95	
RM-20 20m 400w PEP resonator	21.95	
RM-17 17m 400w PEP resonator	21.95	
RM-15 15m 400w PEP resonator	15.95	
RM-12 12m 400w PEP resonator	15.95	
RM-11 11m 400w PEP resonator	15.95	
RM-10 10m 400w PEP resonator	15.95	
RMX-B Black 10m resonator w/mast	34.95	
RMX-W White 10m resonator w/mast	34.95	

RM-80S 80m CW 2kw PEP resonator	49.95	
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RM-75S 75m phone 2kw PEP resonator	49.95	
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RM-40S 40m 2kw PEP resonator	35.95	
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RM-20S 20m 2kw PEP resonator	28.95	
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RM-15S 15m 2kw PEP resonator	24.95	
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RM-11S 11m 2kw PEP resonator	23.95	
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RM-10S 10m 2kw PEP resonator	23.95	
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MO-1 54" mast for fender or deck mount	31.95	
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MO-2 54" mast for bumper mount	31.95	
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MO-3 54" no break-over mast	23.95	
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MO-4 22" mast for special applications	19.95	
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VP-1 Tri-band adapter	5.95	
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RSS-2 Resonator spring	9.95	
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QD-2 Stainless quick disconnect	19.95	
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L-14-144 12' RG-58, PL-259 to lugs	9.95	
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L-14-240 20' RG-58, PL-259 to lugs	12.95	
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LU-216 18' RG-58, PL-259s both ends	13.95	
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STAINLESS 2" MOBILE BALL MOUNTS

SSM-1 Ball & spring, cadmium hardware	\$ 46.95	
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SSM-2 Ball, cadmium hardware	26.95	
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SSM-3 Stainless steel spring	24.95	
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1-1/2" MOBILE BALL MOUNTS

C-32 Chrome plated ball	\$ 11.95	
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C-30 Chrome plated spring	11.95	
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C-29 Stainless steel spring	17.95	
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BM-1 Single strap bumper mt w/C-32	21.95	
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3/8-24 THREAD MOBILE MOUNTS

GCM-1 Rain gutter mount	\$ 12.95	
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HLM Trunk lip mount w/swivel	22.95	
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HOT Hustloff trunk lip mt w/swivel	23.95	
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MM-1 Cowl mount w/SO-239 & 1/4-24 base ...	14.95	
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MM-3 Universal mount with 17' coax	21.95	
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RVM Recreational vehicle mount	20.95	
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TGM-1 Trunk groove mount	12.95	
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TLM Trunk lip mount	21.95	
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HF ANTENNAS

4-BTV 40/20/15/10m 21' trap vertical	\$134.95	99 ⁹⁵
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5-BTV 80/40/20/15/10m 25' trap vertical	179.95	129 ⁹⁵
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30-MTK 30m trap kit for 4-BTV/5-BTV	41.95	
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6-BTV 80/40/30/20/15/10m 24' trap vert	209.95	149 ⁹⁵
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VRK-1 Radial kit for HF verticals	37.95	
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VHF BASE STATION ANTENNAS

G6-144B 2m 6 db 10' vertical antenna	\$139.95	109 ⁹⁵
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G6-270R 2m/440 6db 7.6' base station ant ..	199.95	149 ⁹⁵
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G7-144 2m 7 db 15' vertical antenna	199.95	149 ⁹⁵
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G7-220 220 MHz 7 db 10' vertical antenna ...	189.95	139 ⁹⁵
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G6-440 440 MHz 6 db 7' vertical antenna	179.95	129 ⁹⁵
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SPIRIT VHF/UHF BASE ANTENNAS (Special Order)

HSU-14448 2m unity gain base antenna	\$400.00	219 ⁹⁵
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HS3-14448 2m 3db base antenna	495.00	319 ⁹⁵
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HS6-14448 2m 6db base antenna	750.00	439 ⁹⁵
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HS6-43050 430-450MHz 6 db base antenna ..	697.00	379 ⁹⁵
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HS9-43050 430-450MHz 9 db base antenna ..	766.00	419 ⁹⁵
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HS6-12430 1.2GHz 6 db base antenna	485.00	319 ⁹⁵
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HS9-12430 1.2GHz 9 db base antenna	766.00	419 ⁹⁵
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HS12-12430 1.2GHz 12 db base antenna	965.00	529 ⁹⁵
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HUSTLER - continued**VHF MOBILE ANTENNAS**

BBL-144A 2m FM 3/4" hole mt antenna, 3.4db	\$ 39.95	
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BBLT-144A 2m FM trunk lip mt ant, 3.4 db ...	47.95	
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CG-144 2m FM 3/4-24 ant, 7' high, 5.2 db	31.95	
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CGT-144 2m FM trunk mt ant, 7' high, 5.2db	51.95	49 ⁹⁵
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CG-220 220 FM 3/4-24 antenna, 5.2 db	31.95	
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CGT-220 220 MHz 5.2 db trunk mt antenna ..	51.95	49 ⁹⁵
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FX-2 2m FM 3.4 db magnetic mt antenna	33.95	
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FX-2B 2m FM 3.4 db black mag mt antenna ..	38.95	
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FX-220 220 FM 3.4 db magnetic mt ant	33.95	
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FX-220B 220 FM 3.4 db black mag mt ant	38.95	
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FXM FX-style magnet mount w/coax	19.95	
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MKR-2 Radial kit for SF-2/CG-144	20.95	
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RX-2 2m FM 3.4db magnetic mount ant	24.95	
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RX-220 220 FM 3.4db magnetic mt antenna ..	24.95	
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RX-440 440 FM 5 db magnetic mt antenna ...	24.95	
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RXM RX-style magnet mount w/coaxDwfv	14.95	9 ⁹⁵
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SF-2 2m FM 3/4-24 ant, 4' high, 3.4 db	14.95	
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SF-220 220 MHz 3/4-24 antenna, 3 db	14.95	
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THF 140-500 MHz 1/4 wave trunk mount ant ...	23.95	
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UGM 140-500 MHz 1/4 wave BNC mag mt ant ..	21.95	
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UHT-1 140-500 MHz 1/4 wave roof mt ant</
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HY-GAIN - continued

	Reg	Sale
218S Complete Oscar antenna system	472.00	349 ⁹⁵
ACCESSORIES		
155 CI Center insulator for doublets	\$ 15.00	
156 EI 7" doublet end insulators .....pair	8.00	
157S CIC Dipole center insulator w/SO-239 ..	27.00	
242S BN-86 80-10m balun	42.00	39 ⁹⁵
243S BN-4000B 4kw PEP 160-10m beam balun ..	107.00	89 ⁹⁵
244S BN-4000D 4kw PEP 160-10m dipole balun ..	107.00	89 ⁹⁵
245S BN-4000N 4kw PEP 80-10m N beam balun ..	107.00	89 ⁹⁵
2400-155 Contester boom mic/headset	102.00	79 ⁹⁵
610-1 (Telex) 600 ohm headphones .....D*		9 ⁹⁵

HY-GAIN CRANK-UP TOWERS

129 HG-37SS 37' self-supporting tower .....T	2082.00	1388
125-1 HG-52SS 52' self-supporting tower ..T	3013.00	1998
130-1 HG-54HD 54' hvy duty self-support ..T	3838.00	2549
131-1 HG-70HD 70' hvy duty self-support ..T	5918.00	3898
116 HG-5 5' 2" OD .120 wall steel mast	92.00	79 ⁹⁵
117 HG-10 10' 2" OD .120 wall steel mast ..T	118.00	99 ⁹⁵
118 HG-15 15' 2" OD .120 wall steel mast ..T	190.00	159 ⁹⁵
121B HG-TBT Thrust bearing w/sleeve	100.00	79 ⁹⁵
122 HG-COA Coax arm*, tower legs 1"-1½" ..	27.00	

*One required per section

140 HG-TOA Tilt-over 'gin-pole'T 838.00 589⁹⁵

Hy-Gain Towers are shipped PREPAID (Hy-Gain's expense) via truck direct from the factory (48 states). Any other Hy-Gain antennas, rotors, or accessories on the same order as a Hy-Gain tower will also be shipped PREPAID from the factory. On these drop-shipments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise. This means at you may be billed before you receive your order. Please allow sufficient delivery time. Most truck lines will not unload the tower, so please be sure to have enough manpower and/or equipment on hand.

HY-GAIN ANTENNA ROTORS

305 AR-40 Solid state light duty rotor	\$267.00	199 ⁹⁵
302 CD-45-II Medium duty rotor	373.00	279 ⁹⁵
304 HAM-IV Heavy duty rotor	528.00	369 ⁹⁵
303 TX Tailtwister extra heavy duty rotor	630.00	429 ⁹⁵
300 HDR-300 Deluxe digital hvy duty rotor ...	1380.00	949 ⁹⁵

OPTIONAL ACCESSORIES FOR ROTORS

51467-10 Lower mast support kit; HAM IV/TX ..	\$ 92.00	79 ⁹⁵
51472-10 Extra lower mast support; CD-45-II ..	28.00	
50559-10 Tower spacing kit	22.00	

See BELDEN for rotor cable

ICOM (ICO)

IC-781 Xcvt/Rcvr/ps/auto tuner/spectrum scope ..	7208.00	CALL
FL-103 2.8 KHz SSB filter	89.00	
UT-36 Voice synthesizer	54.00	

IC-765 Xcvt/Rcvr/ps/keyer/auto tuner 3209.00 | CALL |

FREE CR-282 & FL-53A OR CR-282 & SM-20 direct from Icom with purchase of IC-765 thru 12/31/93

CR-282 High stability crystal unit	122.00	
FL-53A 250 Hz CW filter (2nd IF)	137.00	126 ⁹⁵
FL-101 250 Hz CW filter (1st IF)	96.00	
FL-102 6 KHz AM filter	68.00	
HM-36 Scanning hand mic	54.00	
MB-19 Rack mounting handles	54.00	
SM-6 Desk microphone	82.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
UT-30 Tone encoder	40.00	
UT-36 Voice synthesizer	54.00	
FL-70 2.8 KHz wide SSB filter; 751A.....Δmwfv	82.00	69 ⁹⁵
MB-18 Mobile mount for IC-751A .....Δmwfv	43.00	

IC-737 Xcvt/SW Rcvr/auto tuner/keyer	1801.00	CALL
PS-55 Power supply	265.00	244 ⁹⁵
PS-15 20A power supply	244.00	224 ⁹⁵
AH-3 Automatic antenna tuner	594.00	499 ⁹⁵
AH-2B Bumper mt & whip for AH-3	248.00	229 ⁹⁵
AT-150 100w 9-band automatic ant tuner ..	539.00	459 ⁹⁵
CR-282 High stability crystal unit	122.00	
FL-52A 500 Hz CW filter (2nd IF)	137.00	126 ⁹⁵
FL-53A 250 Hz CW filter (2nd IF)	137.00	126 ⁹⁵
FL-100 500 Hz CW filter (1st IF)	96.00	
FL-101 250 Hz CW filter (1st IF)	96.00	
HM-36 Extra scanning hand mic	54.00	
MB-49 Mobile mounting bracket	43.00	
SM-6 Desk microphone	82.00	
SP-3 External speaker	82.00	

ICOM - continued

	Reg	Sale
SP-7 Small external speaker	68.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
SP-21 External speaker	83.00	
UT-30 Tone encoder	40.00	
EX-241 Marker unit for IC-745 .....Δm	26.00	
EX-242 FM unit for IC-745 .....Δm	42.00	

IC-735 Xcvt/SW Rcvr w/mic	1292.00	CALL
PS-55 Power supply	265.00	244 ⁹⁵
PS-15 20A power supply	244.00	224 ⁹⁵
AH-2 Antenna tuning sys w/bpr mt & whip ..	941.00	789 ⁹⁵
AH-2A Antenna tuning system only	691.00	579 ⁹⁵
AT-150 100w 9-band automatic ant tuner ..	539.00	459 ⁹⁵
EX-243 Electronic keyer unit	82.00	
FL-32A 500 Hz CW filter	82.00	
FL-63A 250 Hz CW filter	68.00	
MB-5 Mobile mount	43.00	
SM-6 Desk microphone	82.00	
SP-3 External speaker	82.00	
SP-7 Small external speaker	68.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
UT-30 Tone encoder	40.00	

IC-728 Xcvt/SW Rcvr w/mic	1160.00	CALL
IC-729 Xcvt/SW Rcvr w/6m	1521.00	CALL
PS-55 Power supply	265.00	244 ⁹⁵
PS-15 20A power supply	244.00	224 ⁹⁵
AH-3 Automatic antenna tuner	594.00	499 ⁹⁵
AH-2B Bumper mt & whip for AH-3	248.00	229 ⁹⁵
AT-160 Attached automatic ant tuner	442.00	379 ⁹⁵
CR-64 High stability oscillator crystal	96.00	
FL-100 500 Hz CW filter	96.00	
FL-101 250 Hz CW filter	96.00	
MB-5 Mobile mount	43.00	
SM-6 Desk microphone	82.00	
SP-3 External speaker	82.00	
SP-7 Small external speaker	68.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
UI-7 AM/FM module for IC-728	82.00	
UT-30 Tone encoder	40.00	

IC-725 Xcvt/SW Rcvr w/mic	972.00	CALL
PS-55 Power supply	265.00	244 ⁹⁵
AH-3 Automatic antenna tuner	594.00	499 ⁹⁵
AH-2B Bumper mt & whip for AH-3	248.00	229 ⁹⁵
CR-64 High stability oscillator crystal	96.00	
FL-100 500 Hz CW filter	96.00	
FL-101 250 Hz CW filter	96.00	
MB-5 Mobile mount	43.00	
SM-6 Desk microphone	82.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
UI-7 AM/FM module	82.00	
UT-30 Tone encoder	40.00	

IC-707 Xcvt/SW Rcvr w/mic	1032.00	CALL
IC-2KL 160-15m/WARC solid state linear	2349.00	CALL
IC-4KL 1kw output solid state linear	8021.00	CALL
OPC-118 Adapter; 2KL/4KL; 725/735/765 ..	17.99	
AH-2 Antenna tuning sys w/bpr mt & whip ...	941.00	789 ⁹⁵
AH-2A Antenna tuning system only	691.00	579 ⁹⁵
OPC-137 Adapter; AH-2/2A to IC-751A/745 ..	17.99	
AT-150 100w 9-band automatic ant tuner ..	539.00	459 ⁹⁵
OPC-137 Adapter; AT-150 to IC-751A/745 ..	17.99	
AT-500 500w 9-band automatic ant tuner ...	705.00	599 ⁹⁵
OPC-118 Adapter; AT-500; 725/735/765/781 ..	17.99	

SHORTWAVE RECEIVERS

R-1 100KHz-1.3GHz AM/FM handheld Rcvr	\$577.00	CALL
AD-15A Power supply	48.00	
HP-4 Lightweight headphones	21.00	

Note: R-1 uses 'S'-series HT accessories

R-71A 100 KHz - 30 MHz dig keyboard Rcvr	1279.00	CALL
CK-70 (EX-299) 12v DC option	21.00	
CR-64 High stability oscillator crystal	96.00	
EX-257 FM unit	59.00	
EX-310 Voice synthesizer	69.00	
FL-32A 500 Hz CW filter	82.00	
FL-44A SSB filter	206.00	186 ⁹⁵
FL-63A 250 Hz CW filter	68.00	
MB-12 Mobile mount	43.00	
RC-11 Infrared wireless remote control	85.00	
SP-3 External speaker	82.00	
R-72 30 KHz - 30 MHz shortwave Rcvr	1145.00	CALL

ICOM - continued

	Reg	Sale
CP-11 Cig cord w/noise filter	29.00	
CR-64 High stability oscillator crystal	96.00	
FL-100 500 Hz CW filter	96.00	
FL-101 250 Hz CW filter	96.00	
MB-5 Mobile mount	43.00	
SP-3 External speaker	82.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
UI-8 FM unit	73.00	
UR-1 Receiver protector	21.00	
UT-36 Voice synthesizer	54.00	

R-100 100KHz-1.856GHz AM/FM 12v Rcvr	787.00	CALL
AD-15A Power supply	48.00	
AH-7000 25-1000 MHz discone antenna	117.00	
CP-11 Cig cord w/noise filter	29.00	
HP-4 Lightweight headphones	21.00	

R-7000 25 MHz - 2 GHz scanning receiver	1532.00	CALL
AH-7000 25-1000 MHz discone antenna	117.00	
CK-70 (EX-299) 12v DC option	21.00	
EX-310 Voice synthesizer	69.00	
MB-12 Mobile mount	43.00	
RC-12 Infrared wireless remote control	85.00	
SP-3 External speaker	82.00	

TV-R7000 ATV unit for R-7000	207.00	89 ⁹⁵
R-7100 25 MHz - 2 GHz scanning receiver	1617.00	CALL
AH-7000 25-1000 MHz discone antenna	117.00	
MB-5 Mobile mount	43.00	
MB-23 Carrying handle	11.00	
SP-3 External speaker	82.00	
SP-7 Small external speaker	68.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
TV-R7100 TV/FM adapter	248.00	229 ⁹⁵
UT-36 Voice synthesizer	54.00	

R-9000 .1-1999.8MHz Rcvr/spectrum scope	6389.00	CALL
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
UT-36 Voice synthesizer	54.00	

UT-36 Voice synthesizer	54.00	
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6m TRANSCEIVERS

IC-575H 100w 6 & 10m FM/SSB/CW Xcvt	2021.00	CALL
AH-610 Dual band 6/10m base antenna	137.00	
EX-20 6/10m automatic ant selector	96.00	
CR-64 High stability oscillator crystal	96.00	
FL-100 500 Hz CW filter	96.00	
FL-101 250 Hz CW filter	96.00	
FL-102 6 KHz AM filter	68.00	
PS-55 Power supply for IC-575H	265.00	244 ⁹⁵
UT-36 Voice synthesizer	54.00	

2m TRANSCEIVERS

IC-28H 45w 2m FM Xcvt w/TTP mic	\$459.00	CALL
IC-228H 45w 2m FM Xcvt w/TTP mic	455.00	CALL
IC-229H 50w 2m FM Xcvt w/TTP mic	480.00	CALL
HM-56 Extra autodial TTP mic	83.00	
UT-50 Tone squelch unit	54.00	
UT-55 DTMF tone encoder/decoder unit	42.00	
IC-275H 100w 2m FM/SSB/CW Xcvt	1712.00	CALL
AG-25 Mast mounted GaSfET preamp	154.00	144 ⁹⁵
CR-64 High stability oscillator crystal	96.00	
FL-83 CW filter	109.00	
PS-55 Power supply	265.00	244 ⁹⁵
UT-34 Tone squelch unit	68.00	
UT-36 Voice synthesizer	54.00	
IC-2330A 45w 2m/25w 220 FM Xcvt/TTP	911.00	CALL
IC-3230H 45w 2m/35w 440 FM Xcvt/TTP	799.00	CALL
HM-56 Extra autodial TTP mic	83.00	
UT-50 Tone squelch unit	54.00	
UT-55 DTMF tone encoder/decoder unit	42.00	
UT-66 Voice synthesizer; 2330A/3230A/H ...	42.00	

On major products ask your salesperson about...

- Late Breaking "Hot Deals"
- Latest Sale Prices
- Monthly specials
- Coupons, etc.

Info also available on the AES® BBS

1-414-358-3472

ICOM - continued

UT-67	Tone squelch unit	68.00	
IC-2410AB	(black) 25w 2m/440 FM/TTP ..Δmf	889.00	569 ⁹⁵
IC-2410A	(orange) 25w 2m/440FM/TT ..Δmf	889.00	569 ⁹⁵
IC-2410H	(orange) 45/35w 2m/440 FM/TTP	839.00	CALL
HM-56	Extra autodial TTP mic	83.00	
UT-55	DTMF tone encoder/decoder unit	42.00	
UT-66	Voice synthesizer	42.00	
UT-67	Tone squelch unit	68.00	
AH-32	2m/440 dual band mobile antenna	54.00	
Larsen PO-K	Roof mt, coax for AH-32	23.00	
Larsen PO-MM	Magnet mt, coax; AH-32	28.75	
Larsen PO-TLM	Trunk lip mt, coax; AH-32	24.70	
icom AHB-32	Trunk lip mt, coax; AH-32	40.00	

Accessories for IC-u2AT

BC-50	Desk quick cgr; not for BP-20	Δm	\$ 40.00	
BP-23	600ma 8.4v long life battery	Δmw	37.00	
IC-2AT	1.5w 2m FM HT/batt/cgr/TTP		359.00	CALL
IC-02AT/HP	Dlx 5w 2m FM HT/batt/cgr/TTP		371.00	CALL
IC-2GAT	Dlx 1/7w 2m FM HT/batt/cgr/TTP		425.00	CALL
3A-TTN	16-button TTP front; 2A/3A/4A	Δm	68.00	29 ⁹⁵
AD-12	External pwr adapter; 2/4GAT/32AT		31.00	
BA-10	Bottom slide cap		10.00	
BC-16U	Wall charger; BP-5A/7/8 only		25.00	
BC-25U	Extra wall charger; BP-3 only		25.00	
BC-35	Drop-in rapid charger; all batteries		105.00	
BP-2*	425ma 7.2v long life batt; all HTs		60.00	
BP-3	250ma 8.4v battery; all HTs		47.00	
BP-4	Alkaline battery case; all HTs		20.00	
BP-5*	425ma 10.8v high power batt; all HTs		73.00	
*BC-35 required to charge BP-2/5				
BP-5A	425 ma 10.8v direct charge batt; all		73.00	
BP-7	425ma 13.5v 5w batt; deluxe HTs only		87.00	
BP-8	800ma 8.4v long life batt; all HTs		87.00	
BP-70*	Extra 270ma 13.2v batt; 2GAT/32AT		82.00	
*BP-70 9-hours max charge time in BC-35				
CM-12	Alkaline batt case (10 AAs); dlx HTs		30.00	
CP-1	Cig cgr; BP-3/7/8/DC cord; dlx HTs		21.00	
CP-10	Battery separation cable w/clip		29.00	
CP-11	Cig cord w/noise filter; dlx HTs		29.00	
DC-1	DC operation module; std HTs		29.00	
FA-2	Extra 2m flexible antenna		21.00	
FA-140B	Extra 2m flex ant for IC-2GAT		21.00	
FA-1443B	Extra 2m/440 dual band flex ant		21.00	
HH-SS	Handheld shoulder strap		21.00	
HM-9	Speaker/mic; all HTs		53.00	
HM-46	Slim-line speaker/mic		40.00	
HM-46L	Slim-line spkr/mic for 2GAT		40.00	
HS-10	Boom mic/headset		40.00	
HS-10SA	VOX unit (deluxe HTs only)		40.00	
HS-10SB	PTT switchbox		40.00	
HS-51	Headset w/VOX		67.00	
LC-02AT	Leather case; dlx HTs w/BP-7/8	Δm	28.00	
LC-2GAT	Leather case for IC-2GAT	Δm	28.00	
LC-11	Vinyl case; deluxe HTs w/BP-3	Δm	17.00	
LC-12	Vinyl case; dlx HTs w/BP-5	Δmf	12.00	
LC-14	Vinyl case for deluxe HTs w/BP-7/8		24.00	
LC-32AT	Leather case for IC-32AT	Δmf	26.00	
LC-38	Vinyl case; 2GAT w/BP-2/3/4	Δmf	17.00	
LC-39	Vinyl case; 2GAT w/BP-5/70		22.00	
LC-40	Vinyl case; 2GAT w/BP-5A/7/8		21.00	
LC-41	Vinyl case; 32AT w/BP-2/3/4	Δmf	17.00	
LC-42	Vinyl case; 32AT w/BP-5/70	Δmf	17.00	
LC-43	Vinyl case; 32AT w/BP-5A/7/8	Δmf	22.00	
MB-16	Window/car door mount		29.00	
MB-16D	Mobile mtg bkt for all HTs		29.00	
MB-24	Window/car door mt; 2GAT		29.00	
RB-1	Vinyl waterproof radio bag		39.00	
UT-40	Tone squelch decoder; 2GAT/32AT		54.00	
IC-P2AT	Mini 2m FM HT/batt/cgr/TTP		419.00	CALL
BC-80	Desk cgr; BP-112-114, BP-81-85		132.00	
BC-74	Extra wall charger; BP-111-114		25.00	
BP-110	Alkaline battery case		21.00	
BP-111	Extra 7.2v 400ma 1.5w battery		62.00	
BP-112	7.2v 700ma 1.5w battery		68.00	
BP-113	7.2v 1200ma 1.5w battery		90.00	
BP-114	12v 400ma 5w battery		104.00	
CP-12	Cig lighter cable w/filter		21.00	
HM-9	Speaker/microphone		53.00	
HM-46	Slim-line microphone		40.00	

Reg Sale

ICOM - continued

HM-54	Heavy duty speaker/mic	55.00	
HS-51	Headset w/VOX	67.00	
LC-91	Vinyl case; BP-111	25.00	
LC-92	Vinyl case; BP-110/112	Δmf	17.00
LC-93	Vinyl case; BP-113/114	Δmf	17.00
MB-30	Mobile/wall bracket	29.00	
OPC-254	Mini DC power cable	9.00	
UT-49	DTMF decoder unit	54.00	
IC-2iA	2m FM HT/batt/cgr	387.00	CALL
AD-26	Adapter for BC-79A w/BP-121-124	12.00	
BC-79A	Desk charger (adapter required)	132.00	
BP-120	AA alkaline battery case	21.00	
BP-121	7.2v 400ma battery	62.00	
BP-122	7.2v 700ma battery	64.00	
BP-123	7.2v 1200ma battery	90.00	
BP-124	12v 400ma battery	104.00	
CP-13L	Cigarette lighter cable	22.00	
HM-9L	Speaker/mic	53.00	
HM-46L	Speaker/mic w/ear jack	40.00	
HM-55A	Speaker/mic w/TTP	69.00	
HS-51	Headset w/VOX	67.00	
LC-83	Vinyl case for BP-121	25.00	
LC-84	Vinyl case for BP-120/122	25.00	
LC-85	Vinyl case for BP-123/124	25.00	
MB-30	Mobile/wall bracket	29.00	
OPC-288L	DC power cable	14.00	
IC-W21A	2m/440 FM HT/batt/cgr	572.00	CALL
IC-W21AT	2m/440 FM HT/batt/cgr/TTP	623.00	CALL
AD-25	Battery charger adapter	32.00	
AD-28	Batt pack adapter for rapid charger	12.00	
BC-77	Extra wall cgr	26.00	
BC-79A	Desk charger (adapter required)	132.00	
BP-130	Battery case for 6-AA batteries	21.00	
BP-131	900ma 7.2v battery	96.00	
BP-132	600ma 12v battery	109.00	
CP-13	Cig cable w/filter	22.00	
HM-9	Speaker/microphone	53.00	
HM-46	Slim-line speaker/mic	40.00	
HM-54	Hvy duty spkr/mic	55.00	
HM-55A	Speaker/mic w/TTP	69.00	
HM-75	Speaker/mic w/remote control	55.00	
HS-51	Headset w/VOX	67.00	
LC-103	Vinyl case; IC-W21A w/BP-130/131	25.00	
LC-104	Vinyl case; IC-W21A w/BP-132	25.00	
LC-105	Vinyl case; IC-W21AT w/BP-130/131	25.00	
LC-106	Vinyl case; IC-W21AT w/BP-132	25.00	
MB-30	Mobile/wall bracket	29.00	
OPC-288	Mini DC pwr cord	14.00	
IC-2SAT	2/5w 2m FM HT/batt/cgr/TTP	372.00	CALL
IC-2SRA	2/5w 2m FM HT/25-905 MHz Rcvr	612.00	CALL
IC-W2A	2/5w 2m/440 FM HT/batt/cgr/TTP	579.00	CALL
AD-14	BC-74 charge adapter	31.00	
AD-20	BC-77 charge adapter	32.00	
BA-11	Bottom cap	8.00	
BA-12	Drop-in charger adapter	21.00	
BC-72	Rapid desk charger	115.00	
BC-74	Extra wall cgr; 24AT & S-series	25.00	
BC-77	Extra wall cgr; W2A/2SRA	26.00	
BP-81	7.2v 110ma battery	47.00	
BP-82	7.2v 300ma battery	60.00	
BP-83	7.2v 600ma battery	65.00	
BP-84	7.2v 1000ma battery	87.00	
BP-85	12v 340ma 5w battery	113.00	
BP-90	AA battery case	20.00	
CP-12	Cig lighter cable w/filter	21.00	
CP-13	Cig cable w/filter; W2A/2SRA	22.00	
HM-9	Speaker/microphone	53.00	
HM-46	Slim-line speaker/mic	40.00	
HM-54	Hvy duty spkr/mic; not for 2G/W2A	55.00	
HM-65	Slim-line spkr/mic; W2A/2SRA	42.00	
HM-70	Speaker/mic; W2A/2SRA	42.00	
HS-51	Headset w/VOX	67.00	
HS-60	VOX headset; W2A/2SRA	76.00	
LC-24(L)	Leather case; 24AT/BP-85	Δmf	26.00
LC-53	Vinyl case; 2SA w/no battery	Δmf	21.00
LC-55	Vinyl case; 2SA/BP-82/83/90	Δmf	21.00
LC-56	Vinyl case; 2SA w/BP-84/85	Δmf	21.00
LC-57	Vinyl case; 2SAT w/no battery	25.00	
LC-59	Vinyl case; 2SAT w/BP-82/83/90	25.00	

Reg Sale

ICOM - continued

LC-61	Vinyl case; 2SAT w/BP-84/85	25.00	
LC-63	Vinyl case; 24AT/BP-81/BA-11	Δmf	17.00
LC-65	Vinyl case; 24AT/BP-82/83/90	Δmf	17.00
LC-66	Vinyl case; 24AT w/BP-84/85		25.00
LC-71	Case; W2A/2SRA w/BP-81/BA-11		25.00
LC-72	Case; W2A/2SRA w/BP-82/83/90		25.00
LC-73	Case; W2A/2SRA w/BP-84/85		25.00
LC-SAT(L)	Leather case; 2SAT w/BP-85	Δm	28.00
MB-22	Alligator belt/pocket clip		11.00
MB-25	Stainless steel wall storage unit		30.00
MB-30	Mobile/wall bracket		29.00
OPC-254	Mini DC power cable		9.00
OPC-288	Mini DC pwr cord; W2A/2SRA		14.00
UT-49	DTMF decoder unit for S-series		54.00
UT-50	Tone squelch unit		54.00
UT-51	Programmable tone encoder unit		48.00
IC-Delta-1A	2m/440/1.2 FM HT/batt/cgr/TTP	1199.00	CALL
AD-22	External battery charge adapter		32.00
AD-27	Charge adapt; BP-101 - 103/BC-79		12.00
BP-100	Battery holder		21.00
BP-101	Nicad battery		68.00
BP-102	Nicad battery		90.00
BP-103	Nicad battery		104.00
UT-70	Tone encoder/decoder		82.00
RP-1520	25w 2m FM repeater		2555.00
220 MHz TRANSCEIVERS			
IC-03AT	2.5w 220 HT/batt/cgr/TTP		\$388.00
IC-3SAT	2/5w 220 HT/batt/cgr/TTP		400.00
IC-P3AT	Mini 220 FM HT/batt/cgr/TTP	Δmf	452.00
IC-03AT uses same accessories as IC-02AT/HP			
IC-3SAT uses same accessories as IC-2SAT			
IC-P3AT uses same accessories as IC-P2AT			
IC-38A	25w 220 FM Xcvr w/TTP mic		501.00
RP-2210	25w 220 MHz FM repeater		2173.00
430/440 MHz TRANSCEIVERS			
IC-4GAT	Dlx 1/6w 440 HT/batt/cgr/TTP		\$428.00
IC-4SAT	2/5w 440 HT/batt/cgr/TTP		475.00
IC-4SRA	2/5w 440 HT/25-905 MHz Rcvr		631.00
IC-P4AT	Mini 440 FM HT/batt/cgr/TTP	Δmf	504.00
IC-4iA	440 FM HT/batt/cgr		460.00
IC-X2A	5/1w 440/1.2 FM HT/batt/cgr/TTP		772.00
IC-4GAT uses same accessories as IC-2GAT			
IC-4SAT uses same accessories as IC-2SAT			
IC-4SRA uses same accessories as IC-2SRA			
IC-P4AT uses same accessories as IC-P2AT			
IC-4iA uses same accessories as IC-2iA			
IC-X2A uses same accessories as IC-W2A			
IC-449A	35w 440 FM Xcvr w/TTP mic		592.00
IC-475H	75w 430-450 FM/SSB/CW Xcvr		1957.00
AG-35	Mast mounted preamp		159.00
CR-64	High stability oscillator crystal		96.00
FL-32A	CW filter		82.00
PS-55	Power supply		265.00
UT-34	Tone squelch unit		68.00
UT-36	Voice synthesizer		54.00
RP-4020	25w 440 MHz FM repeater		2637.00
RP-4020/50w	50w 440 MHz FM repeater		2853.00
1.2 GHz TRANSCEIVERS			
IC-12GAT	1w 1.2GHz FM HT/batt/cgr/TTP		\$505.00
FA-1240T	Extra flexible ant for IC-12GAT		21.00
Note: IC-12GAT uses same accessories as IC-2GAT			
IC-1201	10w 1.2 GHz FM Xcvr	Δm	896.00
CR-263	High stability unit; IC-1275A	Δmf	123.00
TV-1275	ATV adapter for IC-1275A	Δmf	276.00
RP-1220	10w 1.2 GHz FM repeater		2976.00
MULTI-BAND FM TRANSCEIVER			
IC-901	Fiber optic 50w 2m/35w 440 FM Xcvr		1141.00
EX-766	Interface & cable for trunk mtg		54.00
EX-767	Power cable connector box		48.00
MB-21	Bracket for controller unit		19.00
MB-31	Mounting bkt for band units		14.00
MB-32	Mobile mount for trunk		21.00
OPC-189	Optical fiber cable 65' extension		74.99
OPC-243	30' DC cable		33.49
UT-40	Tone squelch decoder		54.00
UT-48	DTMF encoder/decoder unit		54.00
UX-R91A	50-905 MHz receiver unit		584.00

ICOM - continued

UX-19A 10w 10m unit	343.00	299 ⁹⁵
UX-59A 10w 6m unit	400.00	339 ⁹⁵
UX-S92A 2m SSB/CW module	679.00	569 ⁹⁵
UX-39A 25w 220 unit	516.00	439 ⁹⁵
UX-129A 10w 1.2 GHz unit	624.00	529 ⁹⁵

MULTI-BAND ALL-MODE TRANSCEIVERS

IC-970A 25w 2m/430 Xcvr w/ps	3665.00	CALL
IC-970H 45w 2m/430 Xcvr w/ps	3964.00	CALL
AG-25 2m mast mounted GaSfET preamp ..	154.00	144 ⁹⁵
AG-35 430 MHz mast mounted preamp	159.00	149 ⁹⁵
AG-1200 1.2 GHz mast mounted preamp ...	137.00	
CR-293 High stability xtal unit	276.00	256 ⁹⁵
EX-243 Electronic keyer unit	82.00	
FL-132 Main band CW filter	96.00	
FL-133 Sub band CW filter	96.00	
MB-19 Rack mounting handles	54.00	
PS-15 20A power supply	244.00	224 ⁹⁵
PS-55 Power supply	265.00	244 ⁹⁵
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵
TV-970 1.2 GHz ATV unit for IC-970A/H	381.00	349 ⁹⁵
UT-34 Tone squelch unit	68.00	
UT-36 Voice synthesizer	54.00	
UX-R96 50-905 MHz receive unit	448.00	379 ⁹⁵
UX-97 1.2 GHz band unit	1141.00	959 ⁹⁵
UX-98 2.4 GHz module (Special Order)	1671.00	1419

ACCESSORIES

CT-16 Satellite interface unit	\$115.00	
CT-17 CI-V level converter	115.00	
UX-14 CI-IV/CI-V converter for CT-17	86.00	
DM-10 Combination probe multimeter	62.00	24 ⁹⁵
EX-309 Interface plug; 751/271/R71A Δmwfv ..	69.00	39 ⁹⁵
EX-310 Voice synthesizer	69.00	
EX-627 HF auto ant selector; up to 7 ants	373.00	344 ⁹⁵
HM-5 Noise canx mobile mic, 4-pin	68.00	39 ⁹⁵
HM-7 Amplified mobile mic, 8-pin	54.00	
HM-8 TTP microphone, 8-pin	72.00	
HM-12 Scan hand microphone	54.00	
HM-14 Scan/TTP mic; 25A/H/28A/45A	82.00	
HM-16 Speaker/mic for mobile	34.00	9 ⁹⁵
HS-15 Goose neck mobile microphone	54.00	
HS-15SB PTT switchbox	32.00	
MB-23 Side mount carrying handle	11.00	
OPC-047 24-pin optional accessory cord	16.50	
OPC-137 24-pin adapter cable; all base Xcvrs ..	17.99	
PS-30 20A systems ps w/6-pin cord	407.00	369 ⁹⁵
OPC-052 2-pin cord	10.50	
OPC-053 4-pin cord	10.50	
PS-45 Compact 8A power supply	176.00	166 ⁹⁵
SM-6 Electret desk microphone	82.00	
SM-8 2-connector desk mic w/up/down scan ..	123.00	
SM-20 Stand mic for base stations	165.00	154 ⁹⁵
SP-3 External speaker	82.00	
SP-5 Mobile speaker	39.00	
SP-7 Small external speaker	68.00	
SP-10 Slim-line external speaker	43.00	
SP-12 Slim-line speaker w/visor clip	32.00	
SP-20 Speaker w/audio filter	179.00	169 ⁹⁵

INNOVA (INN)

06-1101 12vdc 6.5 amp/hour power pack	\$ 61.52	49 ⁹⁵
06-9509 AC/DC adapter	13.62	9 ⁹⁵
06-1130 Compact 12vdc 3 amp/hr pack/adapt ..	61.50	49 ⁹⁵

INTERFLEX (INT)

dspGOLD Software for AEA DSP-2232	\$129.95	
KaGOLD DualPort Software for KPCs & KAM ..	79.95	
KaGOLD DualPort w/Pactor Software; KPC/KAM ..	99.95	
PKGOLD Enhanced Software; PK-88/PK-232 ..	79.95	
PKGOLD w/Pactor Software for PK-232MBX ..	99.95	
PKGOLD DualPort Software; PK-88/PK-232	129.95	
PKGOLD/900 Software for PK-900	129.95	

J-COM (JCO)

HB12 HamBase 1.2 5 1/4" IBM U.S. hams data ..	\$ 54.95	49 ⁹⁵
HB144 HamBase 1.44 3 1/2" IBM U.S. hams data ..	54.95	49 ⁹⁵
VQ Ventriloquist voice keyer, in enclosure	154.95	149 ⁹⁵
VQPCB Ventriloquist PC board only	134.95	129 ⁹⁵

JPS (JPS)

NF-60 Auto DSP audio spectral notch filter ...	\$149.95	
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JPS - continued

NIR-10 Dlx noise/notch DSP bandpass filter ..	349.95	
Power Pack 12vdc adapter	16.00	
NRF-7 Noise remover and filter unit	249.95	

JRC (JRC)

NRD-535D HF receiver	2029.00	1748
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Note: The NRD-535D includes the following items:
CFL-233, CFL-243, CMF-78

NRD-535 HF receiver	1429.00	1229
JST-135HP Deluxe model transceiver	3049.00	2499

Note: The JST-135HP includes the following items:
CDD-366, CFL-233, CFL-243, CGD-135, CMF-78, CMH-742,
NBD-520, NVT-58

JST-135 Standard model transceiver	Dm 1739.00	1449
GCL-212 Tone squelch; JST-135/135HP	Δm 107.00	99 ⁹⁵
CDD-366 Notch follow unit; JST-135	Δm 97.00	79 ⁹⁵
CFL-218A 1.8 KHz crystal IF filter; all	154.00	
CFL-231 300 Hz crystal IF filter; all	154.00	
CFL-232 500 Hz crystal IF filter; all	154.00	
CFL-233 1 KHz crystal filter; all but 135HP ..	154.00	
CFL-243 Bandwidth control (BWC); JST-135 ..	399.00	
CFL-251 2.4 KHz crystal IF filter; all	154.00	
CFQ-3003 Transceive cable set	Δm 122.00	99 ⁹⁵
CGD-135 High stability TCXO	87.00	
CMF-78 ECSS unit	264.00	
CMH-365 Extender board; all radios	150.00	
CMH-530 RTTY demodulator; NRD-525	Δm 118.00	89 ⁹⁵
CMH-741 RS-232C interface; 135/135HP	Δm 189.00	149 ⁹⁵
CMH-742 Daughter board; JST-135	Δm 68.00	49 ⁹⁵
KY-3A CW straight key	Dm 118.00	79 ⁹⁵
NBD-520 DC power supply; JST-135	Δm 399.00	289 ⁹⁵
NFG-97 Antenna tuner; JST-135/135HP	Δm 348.00	249 ⁹⁵
NFG-230 Auto ant tuner; 135/135HP	Dm 717.00	529 ⁹⁵
NVA-88 External speaker; all radios	Δm 65.00	59 ⁹⁵
NVT-56 Desk mic; JST-135/135HP	Δm 104.00	99 ⁹⁵
NVT-58 Hand microphone; JST-135	Δm 40.00	29 ⁹⁵
ST-3 Deluxe headphones; all radios	77.00	
6ZCJD00139 RTTY ptr cbl; NRD-525	Δm 68.00	39 ⁹⁵
6ZCJD00350 RS-232C interface cbl; 535D ..	68.00	
JRL-2000F 160-12m HF linear	A 4899.00	3998
CFQ-3889 General purpose control cable ...	49.00	
CFQ-3890 JST-135 control cable	68.00	

JRC stocked only in Milwaukee

JSC (JSC)

52 OHM COAXIAL CABLE

JPA-213 RG-213 (non-contam)	Δv, per ft.	49¢
JPA-213	Δv, 100 ft. Roll	44 ⁹⁵
JPA-213	Δv, 500 ft. Roll	199 ⁹⁵

ROTOR CABLE

JRR-420 4-wire; U-105/U-110	Δmw, per ft.	19¢
JRR-420	Δmw, 100 ft. Roll	16 ⁹⁵
JRR-420	Δw, 500 ft. Roll	59 ⁹⁵
JRR-520 5-wire; AR-40	Δmw, per ft.	22¢
JRR-520	Δmw, 100 ft. Roll	19 ⁹⁵
JRR-520	Δmw, 500 ft. Roll	59 ⁹⁵
JRR-520	Δmw, 1000 ft. Roll	109 ⁹⁵

COAX ASSEMBLIES w/PL-259s

JFB-58-12LP 12' RG-58U, PL-259 - lugs	Dmwf 6.99	3 ⁹⁵
JFB-58-20LP 20' RG-58U, PL-259 to lugs	Dmwf 8.49	5 ⁹⁵
JFA-08Q-12LP 12' RG-8X, PL-259 - lugs	Dmwf 7.95	4 ⁹⁵
JFA-08Q-20LP 20' RG-8X, PL-259 to lugs	Dm 9.95	6 ⁹⁵

K-COM (KCO)

RF-1 Modular telephone RFI filter	\$ 16.95	
RF-1/2-line Two-line modular RFI filter	22.95	
RF-1/coiled Coiled cord modular RFI filter ...	22.95	
RF-2 Hard-wired telephone RFI filter	10.95	

KLM (KLM)

ANTENNAS

160V 160, 80 or 40m vertical, 24' high	\$268.00	249 ⁹⁵
80M-1 80m rotatable dipole, 90' long	*T 879.00	699 ⁹⁵
80M-1R 80m rotatable dipole w/relays	*T 1235.00	999 ⁹⁵
80M-2 80m 2 el beam, 36' boom, 4 db	*T 2895.00	2369
80M-2R 80m 2 el beam w/relays	*T 3581.00	2899
80M-3 80m 3 el beam, 60' boom, 7 db	*T 4792.00	3998
80M-3R 80m 3 el beam w/relays	*T 5714.00	4899
SSV-80-40-15 80/40/15m vert, 65' high ...	*T 860.00	699 ⁹⁵

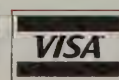
KLM - continued

6-12-8LPA 6-12 MHz 8el LP, 36' boom	*T 2414.00	1969
Heavy duty boom only for 6-12-8LPA	*T 490.00	419 ⁹⁵
6-12-8LPA w/Heavy duty boom	*T 2606.00	2249
6-30-15LPA 6-30 MHz 15el LP, 46' boom ...	*T 3992.00	3199
7.2/10-30-LPA 7,10-30MHz 8 el, 42' bm ...	*T 1325.00	1149
Heavy duty boom only for 7.2/10-30-LPA ..	*T 454.00	399 ⁹⁵
7.2/10-30-LPA w/Heavy duty boom	*T 1747.00	1499
40M-1 40m rotatable dipole, 46.5' boom	T 232.00	199 ⁹⁵
40M-2 40m 2 el beam, 16' boom, 4.9 db ...	*T 569.00	469 ⁹⁵
40M-3 40m 3 el beam, 32' boom, 6.5 db ...	*T 778.00	669 ⁹⁵
Heavy duty boom only for 40M-3	*T 336.00	299 ⁹⁵
40M-3 w/Heavy duty boom	*T 1004.00	879 ⁹⁵
40M-4 40m 4 el beam, 42' boom, 7.2 db ...	*T 1079.00	879 ⁹⁵
Heavy duty boom only for 40M-4	*T 454.00	399 ⁹⁵
40M-4 w/Heavy duty boom	*T 1418.00	1229
40-10V 40/20/15/10m 26.5' vertical	332.00	289 ⁹⁵
10-30-7LPA 10-30MHz 7el LP, 30' bm, 7db ..	*T 1124.00	899 ⁹⁵
Heavy duty boom only for 10-30-7LPA	*T 443.00	369 ⁹⁵
10-30-7LPA w/Heavy duty boom	*T 1489.00	1249
SK-8 Conv kit for 10-30 log w/o 40m dipole ..	*T 303.00	269 ⁹⁵
SK-8/40M Conv kit for 10-30 log w/40m dipole ..	*T 456.00	399 ⁹⁵
KT-31 20-15-10m 24.5' rotatable dipole	282.00	259 ⁹⁵
KT-34A 20-15-10m, 4 el, 16' boom, 7 db	560.00	499 ⁹⁵
KT-34 Upgrade kit - KT-34A to XA	297.00	279 ⁹⁵
KT-34XA 20-15-10m, 6 el, 32' boom, 9 db ...	T 804.00	699 ⁹⁵
Heavy duty boom only for KT-34XA	*T 341.00	299 ⁹⁵
KT-34XA w/Heavy duty boom	*T 996.00	869 ⁹⁵
20M-4 20m 4 el beam, 21' boom, 7.7 db ...	*T 482.00	399 ⁹⁵
20M-5 20m 5 el beam, 42' boom, 9.7 db ...	*T 746.00	599 ⁹⁵
Heavy duty boom only for 20M-5	*T 454.00	399 ⁹⁵
20M-5 w/Heavy duty boom	*T 1113.00	899 ⁹⁵
20M-6 20m 6 el beam, 57' boom, 11 db ...	*T 1073.00	879 ⁹⁵
Heavy duty boom only for 20M-6	*T 600.00	519 ⁹⁵
20M-6 w/Heavy duty boom	*T 1446.00	1249
20-30-6LPA 20-30MHz, 6el LP, 19'bm, 7db ..	*T 383.00	329 ⁹⁵
17M-3 17m 3el beam, 16.75' boom, 6.5db ...	*T 429.00	349 ⁹⁵
15M-4 15m 4 el beam, 14' boom, 7.7db ...	*T 256.00	229 ⁹⁵
15M-6 15m 6 el beam, 36' boom, 10.5db ...	*T 603.00	499 ⁹⁵
Heavy duty boom only for 15M-6	*T 369.00	319 ⁹⁵
15M-6 w/Heavy duty boom	*T 818.00	709 ⁹⁵
15M-6LD As 15M-6, but light duty	*T 453.00	379 ⁹⁵
12-17-30D WARC tri-band dipole	282.00	264 ⁹⁵
12-17-30V WARC tri-band vertical	148.00	134 ⁹⁵
10M-4 10m 4 el beam, 10' bm, 7.7 db ...wft	234.00	149 ⁹⁵
10M-6 10m 6 el beam, 27.5' boom, 11 db ...	*T 369.00	299 ⁹⁵
JV-10 10m 26' vertical antenna	119.00	109 ⁹⁵

Note: All KLM antennas supplied with a KLM balun/matching system, which is included in the price.

6M-5 6m 5 el beam, 11.75' boom, 9.7 db	232.00	209 ⁹⁵
6M-7LB 6m 7el beam, 25.75' bm, 11.5db ...	T 338.00	299 ⁹⁵
6M-7LD 6m 7 el beam, 20' boom, 10.5 db ...	267.00	239 ⁹⁵
6M-10 6m 10 el beam, 34' boom, 11.7 db ...	*T 449.00	399 ⁹⁵
6M-14 6m 14 el beam, 61' boom, 14 db ...	*T 623.00	539 ⁹⁵
JV-6 6m 15' vertical antenna, 3 db	126.00	119 ⁹⁵
2M-4X 2m 4 el rear mt beam, 4.2' bm, 8.5db ..	72.00	69 ⁹⁵
2M-8 2m 8 el beam, 7.25' boom, 10.3 db	113.00	99 ⁹⁵
2M-11X 2m 11 el beam, 15.33' bm, 12.5 db ..	97.00	89 ⁹⁵
2M-13LBA 2m 13 el beam, 21.5' bm, 13.3db ..	110.00	99 ⁹⁵
2M-14C 2m circ 14 el beam, 12.9' bm, 11db ..	188.00	179 ⁹⁵
2M-16LBX 2m 16el beam, 28'bm, 14.5db Dmwv ..	214.00	139 ⁹⁵
2M-16LBXM 2m 16 el beam, 28' boom, 14.5db ..	225.00	199 ⁹⁵
2M-20LBX 2m 20 el beam, 38.5' boom	260.00	239 ⁹⁵
2M-22C 2m circ 22 el beam, 19' bm, 13 db ...	246.00	229 ⁹⁵
CJ-2M 2m 5' closed J antenna, 1.8db ..Dmwv	39.00	29 ⁹⁵
JV-2 2m 5' vertical antenna, 3 db	129.00	119 ⁹⁵
JV-2X 2m 11' vertical antenna, 5 db	176.00	129 ⁹⁵
220-7 220 7 el beam, 4.75' bm, 8.8 db	87.00	79 ⁹⁵
220-14X 220 14 el beam, 14.5' bm, 13.5db ..	126.00	114 ⁹⁵
220-22LBX 220 22el beam, 29.75'bm, 15.6db ..	159.00	144 ⁹⁵
CJ-220 220 40" closed J ant, 1.8 db ...Dmwfv	35.00	24 ⁹⁵

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KLM - continued

	Reg	Sale
JV-220X 220 7' vertical antenna, 5 db	163.00	89 ⁹⁵
432-20LBX 432 20 el beam, 12.33'bm, 15.3db ..	168.00	154 ⁹⁵
432-30LBX 432 30 el beam, 22'bm, 17.3db ..	197.00	179 ⁹⁵
435-18C 432 circ 18 el beam, 7'bm, 12 db ...	247.00	224 ⁹⁵
435-40CX 432 circ 40 el beam, 14.5'bm, 15.2db ..	268.00	244 ⁹⁵
440-6X 440 6 el beam, 2.33' boom, 8.9 db ...	63.00	56 ⁹⁵
440-10X 440 10 el beam, 5.33' bm, 11.2 db ..	76.00	69 ⁹⁵
440-16X 440 16 el beam, 10.33'bm, 14.2db ..	139.00	126 ⁹⁵
CJ-440 440 19' closed J ant, 1.8 db ....Dmwv	31.00	24 ⁹⁵
1.2-15LBX 1.2 GHz 15 el beam	105.00	99 ⁹⁵
1.2-24/25LBX 1.2 GHz 24/25 el beam	127.00	119 ⁹⁵
1.2-44LBX 1.2GHz 44el beam, 12'bm, 18.2db ..	177.00	164 ⁹⁵

APS-1 Antenna polarity switcher w/ps	59.00	
CS-2 Extra 432 ant circularity switch	76.00	

STACKING FRAMEWORKS (Frameworks only)

220x4 For 4 - 220 MHz antennas .....ΔTm	\$286.00	29 ⁹⁵
5' 1½" OD fiberglass mast	40.00	36 ⁹⁵
7-1/2' 1½" OD fiberglass mast	50.00	44 ⁹⁵

COUPLERS/POWER DIVIDERS

440-2N 432 MHz - for 2 ants, w/type N	\$ 85.00	79 ⁹⁵
440-4N 432 MHz - for 4 ants, w/type N	95.00	89 ⁹⁵

FERRITE BALUNS

3-60-1:1 3-60 MHz 4kw PEP 1:1 balun	\$ 66.00	59 ⁹⁵
3-60-4:1 3-60 MHz 5kw PEP 4:1 balun	95.00	84 ⁹⁵
50-150-1:1 50-150 MHz 500w PEP 1:1 balun ..	56.00	52 ⁹⁵
50-150-4:1 50-150MHz 500w PEP 4:1 bln . Dm	78.00	59 ⁹⁵

1/4 WAVE SLEEVE BALUNS

2M-50N 2m 1:1 type N balun	Δm \$ 63.00	19 ⁹⁵
220-50N 220 MHz 1:1 type N balun	Δmv 61.00	19 ⁹⁵

*These antennas are drop-shipped (shipped direct to you from the KLM factory). On these factory drop-shippments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB Monroe, Washington via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these special order antennas.

KANTRONICS (KAN)

DVR 2-2 2w 2m data/voice radio	Dmwf \$219.95	169 ⁹⁵
D4-10 10w 440 MHz data radio	369.95	349 ⁹⁵
Data Engine TNC w/no modems	319.95	299 ⁹⁵
Data Engine w/DE-1200 modem	379.95	359 ⁹⁵
DE-1200 1200 baud modem	79.95	
DE-19K2/9K6 19,200/9600 baud modem ...	109.95	
Host Master II+ IBM software; Data Engine ..	69.95	
KPC-2 Packet Communicator II controller/ps ..	179.95	169 ⁹⁵
KPC-3 Small packet TNC	119.95	
KAM All Mode Communicator w/ps	D* 319.95	219 ⁹⁵
KAM Plus All Mode Communicator	339.95	309 ⁹⁵
12VDC Adaptor 300ma adapt; KAM Plus/KPC3 ..	9.95	
Host Master 64 Software for C-64/128	59.95	
Host Master II+ IBM software	69.95	
Host Master Mac Macintosh software	69.95	
Pactor Eeprom option; KAM (pre-version 5) ..	79.95	
Pactor Eeprom option for KAM (version 5) ...	59.95	
Enhancement board Eeprom/board; KAM/v5 ...	79.95	
KPC-4 Dual port VHF packet Communicator ...	299.95	289 ⁹⁵
KPC-2400 Packet unit/Hostmaster II+ ..Dmwf	279.95	149 ⁹⁵
TNC-2400 2400 baud modem; all TNCs	Dv 79.95	39 ⁹⁵
PC Starter Pack Software for IBM	Dm 25.00	4 ⁹⁵
PC Combo Software for IBM	49.95	
64/128 Combo Software for C-64/128 Dmv ..	49.95	39 ⁹⁵
Host Master 64 Software for C-64/128	59.95	
Superfax II WX FAX program for IBM	49.95	
WeFaxWorks WX FAX prog; Mac	Dmwf 39.95	29 ⁹⁵
KTU Weathermode remote WX unit/temp sens ..	319.95	309 ⁹⁵
Anemometer Wind speed sensor	119.95	
Rain gauge	99.95	

BOOKS

KPC/KAM Manual Set	Δmwv \$ 29.95	24 ⁹⁵
MS-DOS Introduction	Dvv 4.95	2 ⁹⁵
Using the MBL Mailbox	Dmwv 4.95	1 ⁹⁵
Using the RLI Mailbox	Dmwv 4.95	1 ⁹⁵

KENWOOD (KEN)

DSP-10 Dig signal processor; 950S	Dmv \$599.95	299 ⁹⁵
YG-455S-1 2.4KHz SSB filter; 950S	Dmv 152.95	39 ⁹⁵

KENWOOD - continued

TS-950SDX Dlx Xcvr w/keyer/DSP/filters	4799.95	CALL
\$100 coupon - TS-950SDX thru 12/31/93		
DRU-2 Digital recording unit; 950SDX	134.95	127 ⁹⁵
IF-232C Level translator	114.95	
MC-43S Extra 8-pin hand mic w/up-down ..	53.95	
MC-60A 8-pin amp desk mic w/up-down ..	144.95	139 ⁹⁵
MC-80 8-pin electret desk mic w/up-down ..	99.95	
MC-85 Multi-function 8-pin elect desk mic ..	154.95	149 ⁹⁵
MC-90 2-head DSP desk microphone	244.95	224 ⁹⁵
SM-230 Station monitor w/pan display	1099.95	999 ⁹⁵
SP-950 External spkr w/audio filters	124.95	
VS-2 Voice synthesizer	67.95	
YG-455CN-1 250 Hz CW filter (2nd IF)	174.95	164 ⁹⁵
YK-88CN-1 270 Hz CW filter (1st IF)	94.95	
YK-88SN-1 1.8 KHz SSB filter (1st IF)	94.95	
TS-850S 9-band Xcvr/1-30 MHz Rcvr/mic	1949.95	CALL
AT-850 Internal auto antenna tuner	234.95	219 ⁹⁵
TS-850S/AT 9-band Xcvr/1-30 MHz Rcvr/tuner ..	2149.95	CALL
\$50 coupon - TS-850S/TS-850S/AT thru 12/31/93		
AT-300 External auto antenna tuner	669.95	609 ⁹⁵
DRU-2 Digital recording unit	134.95	127 ⁹⁵
DSP-100 External dig sig processor	669.95	609 ⁹⁵
IF-232C Level translator	114.95	
MC-43S Extra 8-pin hand mic w/up-down ..	53.95	
MC-60A 8-pin amp desk mic w/up-down ..	144.95	139 ⁹⁵
MC-80 8-pin electret desk mic w/up-down ..	99.95	
MC-85 Multi-function 8-pin elect desk mic ..	154.95	149 ⁹⁵
MC-90 2-head DSP desk microphone	244.95	224 ⁹⁵
PG-2X Heavy duty DC cable	29.95	
PS-52 Heavy duty power supply	289.95	269 ⁹⁵
RM-1 Remote control unit	54.95	
SM-230 Station monitor w/pan display	1099.95	999 ⁹⁵
SO-2 TCXO unit	169.95	159 ⁹⁵
SP-31 External speaker	94.95	
VS-2 Voice synthesizer	67.95	
YG-455C-1 500 Hz CW filter (2nd IF)	159.95	149 ⁹⁵
YG-455CN-1 250 Hz CW filter (2nd IF)	174.95	164 ⁹⁵
YK-88C-1 500 Hz CW filter (1st IF)	109.95	
YK-88CN-1 270 Hz CW filter (1st IF)	94.95	
YK-88SN-1 1.8 KHz SSB filter (1st IF)	94.95	
IF-10B Computer interface; TS-940S ...Δmwf	74.95	

TS-450S 9-band Xcvr/SW Rcvr/mic	1439.95	CALL
TS-690S 9-band Xcvr w/6m/SW Rcvr/mic	1699.95	CALL
AT-450 Internal 80-10m auto tuner	234.95	219 ⁹⁵
TS-450S/AT 9-band Xcvr/SW Rcvr/tuner/mic ..	1639.95	CALL
\$50 coupon - TS-450S/TS-450S/AT thru 12/31/93		
AT-50 External auto tuner	354.95	324 ⁹⁵
PG-4M 18' extension cable for AT-50	29.95	
AT-300 External auto antenna tuner	669.95	609 ⁹⁵
DSP-100 External dig sig processor	669.95	609 ⁹⁵
IF-232C Level translator	114.95	
MB-430 Mobile mounting bracket	43.95	
MC-43S Extra 8-pin hand mic w/up-down ..	53.95	
MC-60A 8-pin amp desk mic w/up-down ..	144.95	139 ⁹⁵
MC-80 8-pin electret desk mic w/up-down ..	99.95	
MC-85 Multi-function 8-pin elect desk mic ..	154.95	149 ⁹⁵
MC-90 2-head DSP desk microphone	244.95	224 ⁹⁵
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PS-33 Light duty 20.5A power supply	239.95	CALL
PS-53 Heavy duty 22.5A power supply	269.95	249 ⁹⁵
SO-2 TCXO unit	169.95	159 ⁹⁵
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YG-455C-1 500 Hz CW filter (2nd IF)	159.95	149 ⁹⁵
YG-455CN-1 250 Hz CW filter (2nd IF)	174.95	164 ⁹⁵
YK-88C-1 500 Hz CW filter (1st IF)	109.95	
YK-88CN-1 270 Hz CW filter (1st IF)	94.95	
YK-88S-1 2.4 KHz SSB filter (1st IF)	99.95	
YK-88SN-1 1.8 KHz SSB filter (1st IF)	94.95	
YG-455C-1 500 Hz CW filter	109.95	
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\$30 coupon - TS-50S thru 12/31/93		
AT-50 External auto tuner	354.95	324 ⁹⁵
PG-4M 18' extension cable for AT-50	29.95	
AT-300 External auto antenna tuner	669.95	609 ⁹⁵
IF-100 Computer interface	74.95	
IF-232C Level translator	114.95	
MB-13 Deluxe quick release mtg bracket ...	47.95	

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MC-60A 8-pin amp desk mic w/up-down ...	144.95	139 ⁹⁵
MC-80 8-pin electret desk mic w/up-down ..	99.95	
MC-85 Multi-function 8-pin elect desk mic ..	154.95	149 ⁹⁵
PG-2Y DC cable	34.95	
PS-33 Light duty 20.5A power supply	239.95	CALL
PS-53 Heavy duty 22.5A power supply	269.95	249 ⁹⁵
SO-2 TCXO unit	169.95	159 ⁹⁵
YK-107C 500 Hz CW filter	109.95	
TS-140S 9-band Xcvr/5-30 MHz Rcvr/mic ...	1079.95	CALL
AT-50 External auto tuner	354.95	324 ⁹⁵
PG-4M 18' extension cable for AT-50	29.95	
IF-10C Computer interface unit	59.95	
IF-232C Level translator	114.95	
MB-430 Mobile mounting bracket	43.95	
MC-43S Extra 8-pin hand mic w/up-down ..	53.95	
MC-60A 8-pin amp desk mic w/up-down ...	144.95	139 ⁹⁵
MC-80 8-pin electret desk mic w/up-down ..	99.95	
MC-85 Multi-function 8-pin elect desk mic ..	154.95	149 ⁹⁵
PG-2X Heavy duty DC cable	29.95	
PS-33 Light duty 20.5A power supply	239.95	CALL
SP-23 External speaker	79.95	
TU-8 CTCSS tone unit	49.95	
YG-455C-1 500 Hz CW filter	159.95	149 ⁹⁵
YK-455C-1 500 Hz CW filter	109.95	
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R-5000 100 KHz-30 MHz digital receiver	1179.95	CALL
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IC-10 IC kit for computer control	39.95	
IF-232C Level translator	114.95	
MB-430 Mobile mounting bracket	43.95	
SP-23 External speaker	79.95	
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YK-88A-1 AM filter	99.95	
YK-88C 500 Hz CW filter	99.95	
YK-88CN 270 Hz CW filter	99.95	
YK-88S 2.4 KHz SSB filter	92.95	
YK-88SN 1.8 KHz SSB filter	99.95	
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VC-10 118-174 MHz VHF converter	210.95	189 ⁹⁵
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YG-455CN 250 Hz CW filter	Dmwfv 155.95	29 ⁹⁵
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HS-6 Lightweight headphones	54.95	
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HW-3P Ham Windows Plus IBM software	162.95	
LF-30A 1kw PEP low pass filter	54.95	
MA-5 5-band 200w PEP HF mobile antenna ..	164.95	149 ⁹⁵
VP-1 Hvy duty chrome spg, bpr mt for MA-5 ..	64.95	
MC-43S 8-pin hand mic w/up-down switch ...	53.95	
MC-50 4-pin hi/lo-Z desk microphone	84.95	
MC-60A 8-pin amp desk mic w/up-down	144.95	139 ⁹⁵
MC-80 8-pin electret desk mic w/up-down ..	99.95	
MC-85 Multi-function 8-pin elect desk mic ..	154.95	149 ⁹⁵
MJ-46 4-pin mic to 6-pin Xcvr adapt ..Dmwfv	15.95	9 ⁹⁵
MJ-48 4-pin mic to 8-pin Xcvr adaptor	15.95	
MJ-64 6-pin mic to 4-pin Xcvr adapt ...Dmfv	14.95	6 ⁹⁵
MJ-68 6-pin mic to 8-pin Xcvr adaptor ..Dmwv	15.95	9 ⁹⁵
MJ-84 8-pin mic to 4-pin Xcvr adaptor	18.95	
MJ-86 8-pin mic to 6-pin Xcvr adaptor	15.95	
PG-4A Adapt cord; MC-60A - 4-pin Xcvr Dmwfv	22.95	16 ⁹⁵
PG-4B Adapt cord; MC-60A - 6-pin Xcvr Dmwfv	21.95	9 ⁹⁵
PG-4C Adapt cord; MC-60A to 8-pin Xcvr ..Dm	22.95	
PG-4E Adapt cord; MC-85 to 6-pin Xcvr ...Dm	22.95	19 ⁹⁵
PG-4F Adapt cord; MC-85 to 8-pin Xcvr	22.95	
PC-1A 8-pin phone patch	124.95	119 ⁹⁵
PG-3B 15A DC line noise filter	29.95	
PG-3G 25A DC line noise filter	49.95	
RCS-1 Radio Construction Set IBM software ..	49.95	
SP-41 Compact external speaker	44.95	
SP-50B High quality external mobile speaker ..	47.95	
SW-2100 1.8-30MHz 2kw SWR/power meter ...	164.95	154 ⁹⁵
TR-751A 25w 2m SSB/FM Xcvr w/TTP mic	769.95	CALL
CD-10 Call sign display	Dmwfv 119.95	49 ⁹⁵
TU-7 Programmable encoder	49.95	
VS-1 Voice synthesizer	67.95	

KENWOOD - continued

	Reg	Sale
IF-10A Computer interface; TS-711A	Dm	69.95
PG-2U DC cable; TS-711A	Dm	13.95
TU-5 Programmable encoder; TS-711A	Δm	52.95
TS-790A 45w 2m/40w 440 SSB/FM Xcvr		2149.95
IF-232C Level translator		114.95
MC-43S Extra 8-pin hand mic w/up-down ..		53.95
MC-60A 8-pin amp desk mic w/up-down ...		144.95
MC-80 8-pin electret desk mic w/up-down ..		99.95
MC-85 Multi-function 8-pin elect desk mic ..		154.95
PG-2X Heavy duty DC cable		29.95
PS-31 Power supply		219.95
SP-31 External speaker		94.95
TSU-5 Programmable CTCSS decoder		59.95
UT-10 10w 1.2 GHz module		599.95
VS-2 Voice synthesizer		67.95
MB-4000 Mobile mount; TW-4000A	Dm	17.95
TU-4C Prog encoder; TW-4000A	Dm	65.95
TM-641A 50w 2m/25w 220 FM Xcvr/TTP		929.95
DTU-2 Digital paging unit		29.95
MJ-88 Modular to 8-pin mic adapter		27.95
PG-4L 23' remote cable kit	Dm	84.95
TSU-7 CTCSS decoder unit		55.95
UT-28S 50w 10m unit		339.95
UT-50S 50w 6m unit		339.95
UT-440S 35w 440 MHz unit		339.95
UT-1200 10w 1.2 GHz unit		439.95
TM-742A 50/35w 2m/440 FM Xcvr w/TTP		929.95
\$30 coupon - TM-742A and TM-942A thru 12/31/93		
TM-942A 50/35/10w 2m/440/1.2 FM/TTP		1279.95
DFK-3 9' separate display cable kit		24.95
DFK-4 13' remote cable kit		54.95
DFK-7 Deluxe 22' remote cable kit		84.95
MJ-88 Modular to 8-pin mic adapter		27.95
MJ-89 Modular mic switch		67.95
PG-4L 23' remote cable kit	Dm	84.95
TSU-7 CTCSS decoder unit		55.95
UT-28S 50w 10m unit		339.95
UT-50S 50w 6m unit		339.95
UT-220S 25w 220 MHz unit		339.95
UT-1200 10w 1.2 GHz unit		439.95
TM-732A 50/35w 2m/440 FM Xcvr w/TTP		769.95
\$30 coupon - TM-732A thru 12/31/93		
DFK-4 13' remote cable kit		54.95
DFK-7 Deluxe 22' remote cable kit		84.95
DTU-2 Digital paging unit		29.95
MJ-88 Modular to 8-pin mic adapter		27.95
PG-4K 13' remote cable kit	Dm	51.95
PG-4L 23' remote cable kit	Dm	84.95
TSU-7 CTCSS decoder unit		55.95
MA-700 3db 2m/5.5db 440 ant w/duplexer ...		94.95
Larsen PO-K Roof mt, coax; MA-700		23.00
Larsen PO-MM Magnet mt, coax; MA-700 ...		28.75
Larsen PO-TLM Trunk lid mt, coax; MA-700 ..		24.70
TM-241A 50w 2m FM Xcvr w/TTP mic		459.95
\$20 coupon - TM-241A thru 12/31/93		
TM-331A 25w 220 FM Xcvr w/TTP mic		519.95
TM-441A 35w 440 FM Xcvr w/TTP mic		529.95
TM-541A 10w 1.2GHz FM Xcvr w/TTP mic		649.95
DRU-1 Digital recorder		125.95
DTU-2 Digital paging unit		29.95
IF-20 Interface for 4 Xcvrs	Dm	139.95
PG-4H Interface connecting cable	Dm	15.95
PG-4J Extension cable kit	Dm	47.95
KQT-8/TSU-6 Prog CTCSS decoder		46.95
PG-4G Extra control cable	Dm	22.95
RC-10 Remote controller handset	Dm	249.95
MC-48B Up-down 8-pin TTP microphone		78.95
Accessories: TH-A/B/2600A/3600A/2500/3500		
AJ-3 Thread-loc to BNC adapter; TH-A/B Dm		\$ 12.95
DC-21 DC adapter for TH-A/B	Dm	33.95
EB-3 External C alk batt case; 2600A/3600A ..	Dm	26.95
HMC-1 VOX headset; 2600A/TH-A/B	Dm	57.95
LH-3 Leather case; TR-2600A	Dm	46.95
PB-21 Extra 180ma battery for TH-A/B		29.95
PB-21H* 500ma battery for TH-A/B		49.95
*BC-2 or 6 required to charge PB-21H		
PB-25 Extra 400ma batt; 2500/3500		64.95
PB-26 Extra 450ma batt; 2600A/3600A		64.95
RA-9B 220 BNC stubby duck	Dm	18.95

KENWOOD - continued

	Reg	Sale
SC-9 Soft case w/belt hook; 26/3600A	Dm	37.95
W09-0334-15 Wall charger; TH-21/31/41 Δm		29.56
PB-24 Nicad batt w/cgr adapt; 2400		54.95
TH-315A 2.5w 220 FM HT/batt/cgr/TTP Dm		439.95
Accessories for TH-225A/315A/415A/205AT		
BC-7 Desk rapid cgr for PB-1/2/3/4/12		\$114.95
KNB-4/PB-4 1600ma 7.2v (1.5w) battery		76.95
KSC-6/BC-8 Desk cgr for PB-1/2/3/4/12		27.50
PB-1 800ma 12v (5w) battery	Dm	85.95
PB-12 500ma 12v (5w) battery	Dm	66.95
RA-3 2m BNC ¾ wave telescopic ant	Dm	20.95
RA-5 2m ¼ wv/440 ¾ wv BNC telescopic ant ..		26.95
SC-27 Soft case for PB-12; 225A	Dm	19.50
TSU-3 Encoder/decoder for TH-205AT	Dm	46.95
TSU-4 Decoder for TH-225A/315A/415A		46.95
Accessories for TH-75A/77A/25AT/26AT		
BC-2 Wall charger for PB-10	Dm	\$ 22.95
BT-6 6-AA battery case		26.95
BT-7 4-AA battery case	Dm	20.95
DC-1 DC adapter	Dm	26.95
PG-2V DC cable for DC-1		14.95
PG-3E Cig cord w/filter for DC-1		34.95
DC-4 Mobile charger for PB-10	Dm	20.95
KNB-5/PB-6 Extra 600ma 7.2v battery	Dm	50.95
KNB-5A 800ma 7.2v battery		58.95
KNB-6A 1600ma 7.2v (2.5/2w) battery		97.50
KNB-7A 800ma 12v (5w) batt (not 55AT)		76.95
KQT-8/TSU-6 CTCSS encoder/decoder		46.95
KSC-8/BC-10 Compact charger		38.95
KSC-12/KSC-7/BC-11 Rapid charger		99.95
KVC-1/DC-5 Mobile cgr for PB-6/7/9		33.95
KWR-1/WR-1 Water resistant bag		22.00
PB-5 200ma 7.2v (2.5/2w) battery	Dm	59.95
PB-9 600ma 7.2v (2.5/2w) batt/built-in cgr ..	D*	70.95
PB-10* 600ma 7.2v battery	D*	49.95
*Not for use with BC-10 or 11		
PB-11 600ma 12v (5w)/1200ma 6v (2w) batt ..	Dm	82.95
SC-14 Soft case for PB-5; 25/45AT	Dm	25.95
SC-16 Soft case for PB-7/8/9; 25/45AT	Dm	25.95
SC-17 Soft case for PB-5 w/55AT	Dm	22.95
SC-18 Soft case for PB-6/BT-6 w/55AT	Dm	22.95
SC-19 Soft case for PB-7/8 w/55AT	Dm	22.95
SC-22 Soft case for PB-6 w/75A	Dm	29.95
SC-28 Soft case; PB-5/6/10/BT-6/77A	Dm	19.95
SC-29 Soft case for PB-7/8/9 w/77A	Dm	19.95
VB-50 1.2 GHz FM 1/10w amplifier	Dm	380.95
Accessories for TH-26AT/46AT		
SC-24 Soft case for PB-5/BT-7	Dm	\$ 22.95
SC-26 Soft case for PB-7/8/9	Dm	22.95
TH-27A 2.5w 2m FM HT/batt/cgr/TTP	Dm	419.95
TH-47A 1.5w 440 FM HT/batt/cgr/TTP	D*	429.95
Accessories for TH-27A/47A		
BC-14 Extra wall charger for PB-13	†	\$ 24.95
BC-15 Rapid charger for PB-13/14	Dm	89.95
SC-30 Soft case for PB-13	Dm	19.95
SC-32 Soft case for PB-14	Dm	21.95
TH-28A 2.5w 2m FM HT/batt/cgr/TTP		399.95
\$20 coupon - TH-28A thru 12/31/93		
TH-48A 2w 440 FM HT/batt/cgr/TTP		449.95
TH-78A 2.5/2w 2m/440 FM HT/batt/cgr/TTP ..		599.95
\$20 coupon - TH-78A thru 12/31/93		
Accessories for TH-28A/48A/78A		
BC-15A Rapid charger for PB-13/14/17/18 ...		\$109.95
BH-6 Swivel mount		39.95
BT-8 AA alkaline battery case		26.95
EMC-1 Lapel clip mic/ear piece		39.95
HB-2 Wrist strap		16.95
HMC-2 VOX/boom mic headset		63.95
KLF-3/PG-3F Cig cord w/filter		23.50
ME-1 Memory expansion		34.95
PB-13 700ma 7.2v battery		63.95
PB-14 300ma 12v (5w) battery	†	89.95
PB-17 700ma 12v (5w) battery		99.95
PB-18 1100ma 7.2v battery		86.95
PG-2W DC cable w/fuse		14.95
PG-3H Cig lighter cord w/filter		29.95
SC-33 Small soft case; 28A/48A		19.95

KENWOOD - continued

	Reg	Sale
SC-34 Large soft case; 28A/48A		21.95
SC-35 Regular soft case; 78A		19.95
SC-36 Large soft case; 78A		21.95
SMC-31 Speaker/mic w/right angle plug		59.95
SMC-32 Mini water resistant rt angle spkr/mic ..		44.95
SMC-33 Speaker/mic w/remote control		57.95
SMC-34 Spkr/mic w/vol cont & function keys ..		59.95
WR-2 Water resistant bag		27.95
LARSEN (LAR)		
27-31 MHz ANTENNAS		
NLA-27 10m ant only (no mount)		\$ 38.90
NLA-27-K 10m ¾" snap mt ant		51.40
NMO-27 10m ant only (no mount)		32.25
NMO-27-K 10m ¾" hole mt ant		45.25
47-54 MHz ANTENNAS		
NLA-50 6m ant only (no mount)		\$ 38.90
NLA-50-K 6m ¾" snap mt ant		51.40
144-174 MHz ANTENNAS		
NLA-150 2m ant only (no mount), 3 db		\$ 36.35
NLA-150-K 2m ¾" snap mt ant, 3 db		48.85
NLA-150-MM 2m magnetic mt ant, 3 db		65.10
NLA-150-TLM 2m trunk lid mt ant, 3 db		59.45
NLA-150-TMB 2m tnk gtr mt ant, 3 db		53.35
NMO-150 2m ant only (no mount), 3 db		29.40
NMO-150B 2m black ant only (no mt), 3 db ..		31.85
NMO-150-K 2m ¾" hole mt ant, 3 db		42.40
NMO-150-MM 2m magnetic mt ant, 3 db		58.15
NMO-150-TLM 2m trunk lid mt ant, 3 db		53.00
OM-150-K 2m no ground plane ant, 2 db		44.15
220-265 MHz ANTENNAS		
NLA-220 220 ant only (no mount), 3 db		\$ 36.35
NLA-220-K 220 ¾" snap mt ant, 3 db		48.85
NLA-220-MM 220 magnetic mt ant, 3 db		65.10
NLA-220-TLM 220 trunk lid mt ant, 3 db		59.45
NLA-220-TMB 220 tnk gtr mt ant, 3 db		53.35
NMO-220 220 ant only (no mount), 3 db		31.10
NMO-220-K 220 ¾" hole mt ant, 3 db		44.10
NMO-220-MM 220 magnetic mt ant, 3 db		59.85
NMO-220-TLM 220 trunk lid mt ant, 3 db		54.70
OM-220-K 220 no gnd plane ant, 2 db		44.15
440-460 MHz ANTENNAS		
NLA-440 440 ant only (no mount), 5 db		\$ 34.85
NLA-440-K 440 ¾" snap mt ant, 5 db		47.35
NLA-440-MM 440 magnetic mt ant, 5 db		63.60
NLA-440-TLM 440 trunk lid mt ant, 5 db		57.95
NLA-440-TMB 440 tnk gtr mt ant, 5 db		51.85
NMO-440 440 ant only (no mount), 5 db		28.15
NMO-440B 440 black ant only (no mt), 5 db ..		34.35
NMO-440-K 440 ¾" hole mt ant, 5 db		41.15
NMO-440-MM 440 magnetic mt ant, 5 db		56.90
NMO-440-TLM 440 trunk lid mt ant, 5 db		51.75
OM-440-K 440 no gnd plane ant, 2 db		52.15
NLA-2/70 2m/440 2-band ant (no mt), 2/4db ..		47.85
NLA-2/70-K 2m/440 ¾" snap mt ant, 2/4db ..		60.35
NLA-2/70-MM 2m/440 mag mt ant, 2/4 db ...		76.60
NLA-2/70-TLM 2m/440 tnk lid mt ant, 2/4db ..		70.95
NMO-2/70 2m/440 2-band ant (no mt), 2/4db ..		46.65
NMO-2/70-K 2m/440 ¾" hole mt ant, 2/4db ..		59.65
NMO-2/70-MM 2m/440 mag mt ant, 2/4 db ..		75.40
NMO-2/70-TLM 2m/440 tnk lid mt ant, 2/4db ..		70.25
PO-2/70 2m/440 2-band ant (no mt)		47.50
NLAQ 136-512 MHz ¼ wave ant (no mt)		10.75
NLAQ-K 136-512 MHz ¼ wv ¾" snap mt ant ...		23.25
NMOQ-Spec 136-512 MHz ¼ wave ant (no mt) ..		9.35
NMOQ-Spec-B 136-512 black ¼ wv ant (no mt) ..		12.60
NMOQ-Spec-K 136-512MHz ¼ wv ¾" hole ant ..		22.35
NMO-1290 1.2 GHz ant only (no mt)		30.85
BSA-150-K 2m base ant/BSA-K & NLA-150 ...		72.50
BSA-220-K 220 base ant/BSA-K & NLA-220 ..		72.50
BSA-440-K 440 base ant/BSA-K & NLA-440 ..		72.50
FB1-136 Base station 136-230 MHz ant		132.50
ON GLASS ANTENNAS		
KG-144-PL 2m 3 db on glass antenna		\$ 61.35
KG-220-PL 220 3 db on glass antenna		61.35

LARSEN - continued

KG-440-N 440 2.4 db type N on glass ant	54.15	48 ⁹⁵
KG-440-PL 440 2.4 db on glass antenna	49.15	44 ⁹⁵
KG-2/70-PL 2m/440 2.5/4.5db on glass ant ..	85.00	76 ⁹⁵
KG-Reinstall Reinstall kit for KG-ants	4.15	
KULDUCKIES - For Hand-helds		
KD4-146 2m BNC Kulduckie	\$ 16.65	
KD4-2/70 2m/440 BNC Kulduckie	26.65	
KD4-222 220 BNC Kulduckie	16.65	
KD1-445 440 3/8-32 thread Kulduckie	13.15	4 ⁹⁵
KD4-445 440 short BNC Kulduckie	16.65	
KD14-445 440 1/4 wave BNC Kulduckie	16.65	
KD4-146-HQ 2m part helical, part 1/4 wave BNC ..	20.65	
KD14-2M-HW 2m 1/2 wave BNC antenna	32.50	
KD14-440-HW 440 1/2 wave BNC antenna	32.50	

ACCESSORIES & REPLACEMENT PARTS

AD-2/70 100w 2m/440 duplexer	\$ 66.60	59 ⁹⁵
ASC-161 ASP trunk mt, 3/8" hole	6.75	
BSA-K Base station mounting kit	41.60	
CRK NLA contact replacement kit	1.60	
NLA-150-CO Extra coil for NLA-150	27.15	
NLA-220-CO Extra coil for NLA-220	27.15	
NLA-B 3/8" snap mt only for NLA ant	4.25	
NLA-CAP Rain cap for NLA mount	3.25	
NLA-K 3/8" snap mt kit w/coax for NLA ant	12.50	
NLA-MM Magnet mt, coax for NLA ant	28.75	
NLA-TLM Trunk lip mt, coax for NLA ant	23.10	
NMO-150-CO Extra coil for NMO-150	20.25	
NMO-150-BCO Extra black coil; NMO-150B ..	20.25	
NMO-220-CO Extra coil for NMO-220	21.90	
NMO-CAP Rain cap for NMO mount	3.25	
NMO-CAP-B Black rain cap for NMO mount ..	3.25	
NMO-K 3/8" hole mt w/coax for NMO ant	13.00	
NMO-MM Magnet mt, coax for NMO ant	28.75	
NMO-TLM Trunk lip mt, coax for NMO ant	23.60	
PO-K Roof mt, coax for SO-239 ant	23.00	
PO-MM Magnet mt, coax for SO-239 ant	28.75	
PO-TLM Trunk lip mt, coax for SO-239 ant	24.70	
RG-NLA Extra NLA rubber gaskets (3)	1.60	
RG-NMO Extra NMO rubber gaskets (3)	1.60	
SPRING Shock spring	6.60	
TMB-34 Trunk mtg bkt for NMO antenna	4.50	
TMB-34B Black trunk mtg bkt for NMO ant ..	6.50	
TMB-38 Trunk mtg bkt for NLA antenna	4.50	
TMB-OM Trunk gutter bkt for OM antenna	6.35	
W-154 Extra closed coil whip for 440 ant	17.20	
W-490 49" whip	9.20	
W-490B Black 49" whip	11.60	

MFJ ANTENNA TUNERS (MFJ)

989C Dlx 3kw PEP w/roller inductor	\$349.95	299 ⁹⁵
986 3kw PEP w/roller inductor	289.95	259 ⁹⁵
962C 1.5kw PEP/meter/switch/balun	229.95	209 ⁹⁵
949E 300w/meter/dummy/sw/balun	149.95	134 ⁹⁵
948 300w/meter/switch/balun	129.95	119 ⁹⁵
941E 300w w/meter, switch, balun	109.95	99 ⁹⁵
945D 300w tuner w/meter	89.95	84 ⁹⁵
20 Mobile bracket for 945D	4.95	
934 300w tuner w/artificial ground	169.95	159 ⁹⁵
901B Versa Tuner 200w ant tuner	59.95	
16010 200w random wire tuner	39.95	
910 80-10m mobile antenna matcher	19.95	
921 2m/220 300w PEP tuner/SWR/wattmeter ..	69.95	
924 440 MHz 300w PEP tuner/SWR/wattmeter ..	69.95	

MEMORY KEYS

451 Dedicated CW keyboard w/memory	\$ 89.95	84 ⁹⁵
451X Morse keyboard interface only	69.95	
486 Super Grandmaster memory keyer	189.95	149 ⁹⁵
77 Wired remote control for 486	19.95	16 ⁹⁵
484C 12 25-char/25-100 char msgs ..Dmwf	149.95	99 ⁹⁵
75 Remote pad for 484C	14.95	12 ⁹⁵
490 492 keyer/Bencher paddle combination ..	164.95	149 ⁹⁵
490X 492 keyer for use w/Bencher or 564 ..	109.95	99 ⁹⁵
564 Deluxe iambic paddle for 490X	49.95	
492 192 char menu driven memory keyer	99.95	89 ⁹⁵
80 8000 char memory expansion for 492	14.95	
492X Memory keyer w/8000 char expansion ..	114.95	104 ⁹⁵
78 Remote control for 492/492X	19.95	

MFJ - continued

493 32,000 char menu driven mem keyer	139.95	129 ⁹⁵
79 Remote control for 493	19.95	
551 IBM AT-101 keyboard for 493	39.95	
5409 493 9-pin serial port 6' cable	12.95	
5425 493 25-pin serial port 6' cable	12.95	
ELECTRONIC KEYS		
407B Deluxe electronic keyer	Dmwf	\$ 69.95
407C Deluxe electronic keyer	69.95	54 ⁹⁵
401B Econo keyer	49.95	64 ⁹⁵
1305 5vdc power supply	12.95	
KEYER/PADDLES		
422B Keyer/Bencher paddle combination	\$134.95	124 ⁹⁵
422BX Keyer only	79.95	74 ⁹⁵
1305 5vdc power supply	12.95	
564 Deluxe iambic paddle for 422BX	49.95	
COMPUTER INTERFACES		
1224 Interface	\$ 99.95	94 ⁹⁵
1264 Tape software for VIC/C64; 1224	19.95	
1265 Disk software for VIC/C64; 1224	19.95	
1285 Software for IBM; 1224	19.95	
1225 Receive only interface	69.95	64 ⁹⁵
1264B Tape software for VIC/C64; 1225	19.95	
1265B Disk software for VIC/C64; 1225	19.95	
1285B Software for IBM; 1225	19.95	
1270C Packet radio TNC2	119.95	109 ⁹⁵
47A Mailbox 32K mem board; 1270/1274 ..	49.95	
47B Mailbox 128K mem board; 1270/1274 ..	69.95	
47C Mailbox 512K mem board; 1270/1274 ..	239.95	219 ⁹⁵
2400 2400 baud modem	89.95	
9600 9600 baud modem	109.95	104 ⁹⁵
1270BT Turbo packet w/2400 baud	209.95	169 ⁹⁵
1270CT Turbo packet w/2400 baud	209.95	189 ⁹⁵
1270CQ Packet w/9600 baud modem	239.95	219 ⁹⁵
1274 Packet radio controller	Dmwf	139.95
1274C Packet radio controller	139.95	129 ⁹⁵
2400 2400 baud modem	89.95	
9600 9600 baud modem	109.95	104 ⁹⁵
1274T Turbo controller w/2400 baud ..Dmwf	229.95	189 ⁹⁵
1274CT Turbo controller w/2400 baud	229.95	209 ⁹⁵
1278B Multi-mode data controller w/Pactor ..	299.95	269 ⁹⁵
45A 32K RAM IC only	14.95	
45B 128K RAM IC only	34.95	
45C 512K RAM IC only	219.95	199 ⁹⁵
48 1278 upgrade	24.95	
48B 1278B upgrade	24.95	
48E 1278 packet encryption EPROM	29.95	
48X 1278 expanded mailbox firmware	24.95	
52 TNC2 deviation meter board	29.95	
56A Pactor/mailbox 32K board for 1278B ..	69.95	
56B Pactor/mailbox 128K board for 1278B ..	89.95	
56C Pactor/mailbox 512K board; 1278B	239.95	219 ⁹⁵
2400 2400 baud modem	89.95	
9600 9600 baud modem	109.95	104 ⁹⁵
1278T Turbo controller/2400 baud	359.95	299 ⁹⁵
1278BT Turbo controller/2400 baud/Pactor ..	369.95	339 ⁹⁵
1282 C64 starter pack	24.95	
1282B Multicom package; C64/128	39.95	
1282BD Multicom 64 disk only	29.95	
1283 Tape software; C64 & VIC-20	24.95	
1284 5 1/4" IBM starter pack	24.95	
1284D 1284 disk only	14.95	
1284M 3 1/2" IBM starter pack	24.95	
1284MD 1284M disk only	14.95	
1287 Macintosh starter pack	24.95	
1287B Mac multicom starter pack	59.95	
1287D 1287 disk only	14.95	
1287BD 1287B disk only	39.95	
1289 5 1/4" multicom software for IBM	59.95	
1289D 1289 disks only	49.95	
1289M 3 1/2" multicom software for IBM	59.95	
1289MD 1289M disks only	49.95	
49 1289 color SSTV/print upgrade ..Dm	19.95	14 ⁹⁵
1290 Amiga multicom starter pack	49.95	
1290D 1290 disk only	39.95	
1214AM Multimode interface for Amiga	149.95	139 ⁹⁵
1214PC Multimode interface for IBM	149.95	139 ⁹⁵
59 1214 5 1/4" software upgrade	29.95	
59M 1214 3 1/2" software upgrade	29.95	

MFJ - continued

40B TNC2 upgrade 32K/RAM	39.95	
40C TNC2 upgrade 32K	19.95	
40CX TNC2 upgrade; expanded RAM mailbox ..	19.95	
40E TNC2 packet encryption EPROM	29.95	
43 Real time clock for TNC	29.95	
44 Plug-in scope tuning adapter	29.95	
1271 Packet card for C64/128	49.95	
1272B TNC to microphone interface	34.95	
1272BX TNC/mic switch; PK-232	39.95	
1272BYH TNC/mic switch; KAM HF	39.95	
1272BYV TNC/mic switch; KAM VHF	39.95	
1272BZ TNC/mic switch; PK-88	39.95	
1272M TNC/mic RJ-45 switch; MFJ/PK-900 ..	34.95	
1272MX TNC/mic RJ-45 switch; PK-232	39.95	
1272MYH TNC/mic RJ-45 switch; KAM HF	39.95	
1272MYV TNC/mic RJ-45 sw; KAM VHF; KPC3 ..	39.95	
1272MZ TNC/mic RJ-45 switch; PK-88	39.95	
1273 Packet tuning indicator	49.95	
SSB/CW FILTERS		
752C Dual tunable SSB/CW filter	\$ 99.95	94 ⁹⁵
722 SSB/CW notch filter	79.95	74 ⁹⁵
PHONE PATCH		
624D Phone patch w/audio VU meter	\$ 89.95	84 ⁹⁵
DUMMY LOADS		
250 2kw PEP dummy load w/oil	\$ 49.95	
250X 2kw PEP dummy load, less oil	29.95	
260B 300w 0-150 MHz dry dummy load	29.95	
260BN 300w 0-150 MHz type N dry dummy ...	34.95	
264 1.5kw 0-650 MHz dry dummy load	59.95	
264N 1.5kw 0-650 MHz type N dry dummy ...	69.95	
SWR/WATTMETERS		
812B 14-170 MHz SWR/FS/wattmeter	\$ 29.95	
815B 160-6m cross-needle SWR/wattmeter ...	69.95	
816 1.8-30 MHz toroidal SWR/wattmeter	29.95	
817 2m/440 cross needle meter	79.95	74 ⁹⁵
840 2m 5w wattmeter/dummy load for HT	19.95	
841 2m 5w in-line HT wattmeter/SWR	39.95	
SHORTWAVE ACCESSORIES		
956 LW/MW/SW preselector/tuner	\$ 39.95	
959B Receiver ant tuner w/preamp	89.95	
1020A .3-30 MHz indoor active rcv ant	79.95	
1022 300KHz-200MHz active rcv antenna	39.95	
1024 .05-30 MHz outdoor active rcv ant	129.95	119 ⁹⁵
1040B Deluxe receiver preselector	99.95	
1045B Receiver preselector	69.95	
ACCESSORIES		
1305 5vdc adapter	\$ 12.95	
1312B 12vdc 300ma adapter, 2.1mm plug ...	12.95	
1315 12vdc 500ma adapter	14.95	
30 Golden Classics book	9.95	
31 Oscar book	7.95	
32 Packet Made Easy book	9.95	
33 Mobile Handbook book	12.95	
35 World of Ham Radio book	7.95	
36 Shortwave Listeners Guide; Apts/Condos ..	9.95	
37 Ham Communications Circuit Files book ..	9.95	
38 Easy-up Antennas book	16.95	
105B 24-hour quartz wall clock	19.95	
107B 24-hour digital clock	9.95	
108B 24/12-hour dual disp digital clock	19.95	
112 Deluxe world map clock	24.95	
202B RF noise bridge	59.95	
203 160-10m bandswitched dip meter	99.95	89 ⁹⁵
204B Antenna bridge	79.95	74 ⁹⁵
205 160-10m antenna resistance meter	89.95	84 ⁹⁵
206 Antenna current probe	79.95	74 ⁹⁵
207 160-10m SWR analyzer	79.95	74 ⁹⁵
208 2m SWR analyzer	79.95	74 ⁹⁵
209 1.8-170 MHz SWR analyzer	109.95	99 ⁹⁵
217 SWR analyzer, 30-50 MHz	79.95	74 ⁹⁵
218 SWR analyzer, 150-170 MHz	79.95	74 ⁹⁵
219 SWR analyzer, 440 MHz	89.95	84 ⁹⁵
249 1.8-170 MHz SWR analyzer/LCD counter ..	199.95	179 ⁹⁵
259 1.8-170 MHz SWR analyzer/RF res meter ..	219.95	199 ⁹⁵
29 Padded carrying pouch; 209/249/259 ...	19.95	
280 Mobile compact speaker	19.95	
283 Speaker/mic, split jack; Alinco	24.95	

MFJ - continued

284 Speaker/mic; Icom/Yaesu/Alinco	24.95	
285 Mini spkr/mic; Icom/Yaesu/Alinco	24.95	
285L Mini spkr/mic L for Icom/Yaesu/Alinco ..	24.95	
285W Mini spkr/mic for Icom W2A	24.95	
286 Speaker mic; Kenwood	24.95	
287 Mini spkr/mic; Kenwood	24.95	
287L Mini spkr/mic L for Kenwood	24.95	
346 600 MHz LCD frequency counter	189.95	179 ⁹⁵
411 Personal Morse Code Tutor	79.95	74 ⁹⁵
432 Voice Memory Keyer	99.95	94 ⁹⁵
462 RTTY/ASCII/CW/AMTOR Rcvr multi-reader ..	149.95	139 ⁹⁵
557 Deluxe code oscillator w/key	24.95	
701 Toroid RFI filters .....pack of 4	14.95	
704 1kw low-pass filter	39.95	
850 AC line voltage monitor	19.95	
912 W9INN remote balun	39.95	
931 Artificial ground unit	79.95	74 ⁹⁵
1112 Multiple DC outlet	29.95	
1116 Dlx multiple DC outlet	44.95	
1118 High current multiple DC outlet	64.95	
1202 Contest Connie voice keyer/interface	149.95	139 ⁹⁵
1266 C64 disk code tutor program	19.95	
1267 C64 cart code tutor program .....Dmv ..	29.95	19 ⁹⁵
76 1266/67 interface board; kyr/keyboard ..	19.95	
1268 IBM PC memory keyer	49.95	
1269 IBM code tutor	19.95	
1281 IBM Easy-DX logging program	39.95	
1286 Gray Line DX Advantage prog for IBM ...	29.95	
1288 Picture passing packet soft; IBM .....Dm ..	9.95	6 ⁹⁵
1292 Video digitizer for IBM	199.95	189 ⁹⁵
1610 Novice theory tutor software for IBM	29.95	
1611 Technician theory tutor software; IBM	29.95	
1612 General theory tutor software for IBM	29.95	
1613 Advanced theory tutor software; IBM	29.95	
1614 Extra theory tutor software for IBM	29.95	
1615 No-code theory tutor software for IBM ..	49.95	
1621 40-10m 54" portable ant w/tuner	79.95	74 ⁹⁵
1630 Novice theory tutor software for Mac	29.95	
1631 Technician theory tutor software; Mac ..	29.95	
1632 General theory tutor software for Mac	29.95	
1633 Advanced theory tutor software; Mac	29.95	
1634 Extra theory tutor software for Mac	29.95	
1635 No-code theory tutor software for Mac ..	49.95	
1680 Windows software package	109.95	
1681 Log Windows software	69.95	
1682 Packet Windows software	29.95	
1683I Rig Windows software for Icom	29.95	
1683K Rig Windows software for Kenwood	29.95	
1683Y Rig Windows software for Yaesu	29.95	
5383I Icom Xcvr interface cable	49.95	
5383K Kenwood Xcvr interface cable	49.95	
5383Y Yaesu Xcvr interface cable	49.95	
1700B Combination ant/xmtr switch	64.95	
1701 6-position coax switch	34.95	
1702B 2-position coax switch	21.95	
1702BN 2-pos 1.1 GHz type N switch	31.95	

Reg Sale**MFJ - continued**

1704 4-pos 500 MHz switch/lightning protect ..	59.95	
1704N 4-position type N switch	69.95	
1710 2m 3/4 wave telescopic antenna	9.95	
1712 2m/440 telescopic antenna	14.95	
1714 2m 1/2 wave telescopic antenna	16.95	
1718 2m shorty duck for HT	12.95	
1724B 2m/440 magnet mt antenna	14.95	
1728 2m 3/4 wave magnet mt antenna	24.95	
1728B 2m 3/4 wave mag mt ant w/BNC	24.95	
1730 2m pocket roll-up vertical ant	14.95	
1740 2m 3/4 wave ground plane ant	12.95	
1750 2m 3/4 wave ground plane ant	19.95	
1752 220 3/4 wave ground plane ant	19.95	
1754 2m/440 ground plane antenna	24.95	
1763 2m 3el portable beam	39.95	
1764 2 & 6m dual 3/4 super gain base ant	34.95	
1765 Direct feed power splitter/cbl harness ..	29.95	
1766 Stacked 2m dual 3/4 base antenna	89.95	
1782 Super Hi-Q 10-30MHz loop/basic control ..	219.95	199 ⁹⁵
1786 Super Hi-Q 10-30MHz loop/dlx control ..	249.95	229 ⁹⁵
1312B 12vdc 300ma adapter; 1782/1786 ..	12.95	
1796 40/20/15/10/6/2m 10' vertical ant	199.95	179 ⁹⁵
1824BB Cell look alike BNC scanner ant	19.95	
1824BM Cell look Motorola plug scanner ant ..	19.95	
1828B Magnet mt BNC scanner antenna	29.95	
1828M Mag mt Motorola plug scanner ant	29.95	
1864 Base scanner antenna w/preamp	79.95	74 ⁹⁵
2040 Repeater controller	449.95	349 ⁹⁵
3036 The Packet Radio Operators book	12.95	
3101 Fox Hunt Adventure book	7.95	
3210 Novice license guide	7.95	
3211 Tech Plus license guide	7.95	
3212 No code tech license guide	14.95	
3213 General license guide	7.95	
3214 Advanced license guide	7.95	
3215 Extra license guide	7.95	
3301 Troubleshooting Antenna & Feedlines book	12.95	
3302 73 Dipole and Long-Wire Antennas	12.95	
3303 73 Vertical, Beam, and Triangle Ants ...	12.95	
3304 Technician Antenna Handbook	12.95	
3502 Solid State QRP Projects	12.95	
3504 FET Principles, Experiments & Projects ..	16.95	
5024 MFJ TNC - Icom/Yaesu/Alinco HT cable ..	14.95	
5024X PK-232 - Icom/Yaesu/Alinco HT cable ..	14.95	
5024YV KAM - Icom/Yaesu/Alinco HT cable ...	14.95	
5024Z PK-88 - Icom/Yaesu/Alinco HT cable ...	14.95	
5026 MFJ TNC - Kenwood HT cable	14.95	
5026X PK-232 - Kenwood HT cable	14.95	
5026YV KAM - Kenwood HT cable	14.95	
5026Z PK-88 - Kenwood HT cable	14.95	
5080 MFJ TNC - Yaesu 8-pin cable	14.95	
5080X PK-232 - Yaesu 8-pin cable	14.95	
5080YH KAM HF port - Yaesu 8-pin cable	14.95	
5080YV KAM VHF port - Yaesu 8-pin cable	14.95	
5080Z PK-88 - Yaesu 8-pin cable	14.95	
5082 Open end - 8-pin mic cable	9.95	

Reg Sale**MFJ - continued**

5084 MFJ TNC - Icom 8-pin cable	14.95	
5084X PK-232 - Icom 8-pin cable	14.95	
5084YH KAM HF port - Icom 8-pin cable	14.95	
5084YV KAM VHF port - Icom 8-pin cable	14.95	
5084Z PK-88 - Icom 8-pin cable	14.95	
5086 MFJ TNC - Kenwood/Alinco 8-pin cable ..	14.95	
5086X PK-232 - Kenwood/Alinco 8-pin cable ..	14.95	
5086YH KAM HF port - Ken/Alin 8-pin cable	14.95	
5086YV KAM VHF port - Ken/Alin 8-pin cable ..	14.95	
5086Z PK-88 - Kenwood/Alinco 8-pin cable ..	14.95	
5222 Open end - Alinco split HT cable	9.95	
5224 Open end - Icom/Yaesu/Alinco HT cable ..	9.95	
5226 Open end - Kenwood HT cable	9.95	
5268 Open end - modular phone plug cable ..	7.95	
5412 IBM printer cable	9.95	
5413 RS-232 cable DB-25M-252	9.95	
5414 RS-232 cable DB-25M-9F2	9.95	
5803/10 3' coax jumper cable	4.95	
8100K Shortwave regenerative Rcvr kit	59.95	
8100W Shortwave regenerative Rcvr wired ...	79.95	72 ⁹⁵
8400K 2m receiver kit	69.95	64 ⁹⁵
8400W 2m receiver wired	89.95	84 ⁹⁵
9015 5w 15m CW Xcvr	179.95	154 ⁹⁵
9017 5w 17m CW Xcvr	179.95	154 ⁹⁵
9020 5w 20m CW Xcvr	179.95	154 ⁹⁵
9030 5w 30m CW Xcvr	179.95	154 ⁹⁵
9040 5w 40m CW Xcvr	179.95	154 ⁹⁵
27 Handle for CW station	4.95	
412 Plug-in Curtis keyer	39.95	
726 Plug-in audio filter	29.95	
971 200w portable ant tuner w/meter	89.95	84 ⁹⁵
1770 Portable 15m dipole	34.95	
1771 Portable 17m dipole	34.95	
1772 Portable 20m dipole	34.95	
1773 Portable 30m dipole	34.95	
1774 Portable 40m dipole	34.95	
4112 Portable power pack	49.95	
4114 Rechargeable power pack	69.95	64 ⁹⁵
9115B 9015 Xcvr/971 tuner/4114 ps/1770 ant ..	329.80	299 ⁹⁵
9117B 9017 Xcvr/971 tuner/4114 ps/1771 ant ..	329.80	299 ⁹⁵
9120B 9020 Xcvr/971 tuner/4114 ps/1772 ant ..	329.80	299 ⁹⁵
9130B 9030 Xcvr/971 tuner/4114 ps/1773 ant ..	329.80	299 ⁹⁵
9140B 9040 Xcvr/971 tuner/4114 ps/1774 ant ..	329.80	299 ⁹⁵
9420X 12w 20m SSB Xcvr w/mic	229.95	209 ⁹⁵
415 SSB Xcvr CW adaptor	39.95	
4110 Portable AC power supply	39.95	

MIRAGE (MIR)

A-1015G 6m FM/SSB 10/150w amp/preamp	\$367.00	339 ⁹⁵
A-1035G* 6m FM/SSB 10/350w 28v amp/pre	616.00	559 ⁹⁵
B-23 2m FM/SSB 2/30w amplifier	122.00	114 ⁹⁵
B-23G 2m FM/SSB 2/30w amp/preamp	167.00	154 ⁹⁵
B-215G 2m FM/SSB 2/150w amp/preamp	356.00	319 ⁹⁵
B-108G 2m FM/SSB 10/80w amp/preamp	214.00	194 ⁹⁵
B-1016G 2m FM/SSB 10/160w amp/preamp ..	356.00	319 ⁹⁵
B-1030G 2m FM/SSB 10/300w amp/preamp ..	648.00	589 ⁹⁵

Order Toll Free: 1-800-558-0411**FAX: (414) 358-3337****AMATEUR ELECTRONIC SUPPLY[®] Inc.****5710 W. Good Hope Road; Milwaukee, WI 53223 • Phone (414) 358-0333****AES[®] Store Locations****Phone****Toll Free****FAX**

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MIRAGE - continued

	Reg	Sale
B-1060G* 2m FM/SSB 10/600w 28v amp/pre	1032.00	929 ⁹⁵
B-2516G 2m FM/SSB 25/160w amp/preamp	300.00	269 ⁹⁵
B-2530G 2m FM/SSB 25/300w amp/preamp	648.00	589 ⁹⁵
B-2560G* 2m FM/SSB 25/600w 28v amp/pre	1032.00	929 ⁹⁵
B-5016G 2m FM/SSB 50/160w amp/preamp	300.00	269 ⁹⁵
B-5030G 2m FM/SSB 50/300w amp/preamp	631.00	569 ⁹⁵
B-5060G* 2m FM/SSB 50/600w 28v amp/pre	1032.00	929 ⁹⁵

*Requires 28 volts; information on combining power supplies included in operations manual.

C-22 220 FM/SSB 2/20w amplifier	122.00	114 ⁹⁵
C-22G 220 FM/SSB 2/20w amp/preamp	167.00	154 ⁹⁵
C-211G 220 FM/SSB 2/110w amp/preamp	337.00	304 ⁹⁵
C-106G 220 FM/SSB 10/60w amp/preamp	225.00	204 ⁹⁵
C-1012G 220 FM/SSB 10/120w amp/preamp	337.00	304 ⁹⁵
C-1022G 220 FM/SSB 10/220w amp/preamp	616.00	559 ⁹⁵
C-2512G 220 FM/SSB 25/120w amp/preamp	315.00	289 ⁹⁵
C-2522G 220 FM/SSB 25/220w amp/preamp	616.00	559 ⁹⁵
C-5012G 220 FM/SSB 50/120w amp/preamp	315.00	289 ⁹⁵
C-5022G 220 FM/SSB 50/220w amp/preamp	601.00	539 ⁹⁵
D-15N 430 FM/SSB/ATV 2/18w type N amp	187.00	174 ⁹⁵
D-26N 440 FM/SSB 2/60w type N amplifier	267.00	244 ⁹⁵
D-1010N 440 FM/SSB 10/100w type N amp	391.00	354 ⁹⁵
D-3010N 440 FM/SSB 30/100w type N amp	361.00	329 ⁹⁵
D-100-ATVN 430 ATV 1/52w type N amp	391.00	354 ⁹⁵
D-1010-ATVN 430 ATV 10/100w type N amp	391.00	354 ⁹⁵
RC-1* Remote control head w/18' cable	42.00	

*Not for B-23/C-22/D-26

The following Repeater Amplifiers are available on Special Order. Specify SO-239 or type N connectors

A-1015NR 6m FM 2/80w type N amplifier	\$524.00	479 ⁹⁵
A-1015R 6m FM 2/80w SO-239 amplifier	524.00	479 ⁹⁵
B-215NR 2m FM 1/110w type N amplifier	509.00	459 ⁹⁵
B-215R 2m FM 1/110w SO-239 amplifier	509.00	459 ⁹⁵
B-1016NR 2m FM 2/120w type N amplifier	546.00	499 ⁹⁵
B-1016R 2m FM 2/120w SO-239 amplifier	546.00	499 ⁹⁵
B-2516NR 2m FM 12/120w type N amplifier	500.00	449 ⁹⁵
B-2516R 2m FM 12/120w SO-239 amplifier	500.00	449 ⁹⁵
C-211NR 220 FM .5/80w type N amplifier	569.00	519 ⁹⁵
C-211R 220 FM .5/80w SO-239 amplifier	569.00	519 ⁹⁵
C-1012NR 220 FM 5/90w type N amplifier	569.00	519 ⁹⁵
C-1012R 220 FM 5/90w SO-239 amplifier	569.00	519 ⁹⁵
C-2512NR 220 FM 15/90w type N amplifier	541.00	489 ⁹⁵
C-2512R 220 FM 15/90w SO-239 amplifier	541.00	489 ⁹⁵
D-1010NR 440 FM 4/80w type N amplifier	595.00	539 ⁹⁵
D-3010NR 440 FM 12/80w type N amplifier	566.00	509 ⁹⁵
D-100-ATVN-R 430 ATV 1/40w type N amp	595.00	539 ⁹⁵
D-1010-ATVN-R 430 ATV 4/80w type N amp	595.00	539 ⁹⁵

PREAMPS

KP-1/10M 10m in shack preamp	\$124.00
KP-1/6M 6m in shack preamp	124.00
KP-1/2M 2m in shack preamp	124.00
KP-1/220 220 in shack preamp	124.00
KP-1/440 440 in shack preamp	124.00
KP-2/10M 10m mast mount preamp	174.00
KP-2/6M 6m mast mount preamp	174.00
KP-2/2M 2m mast mount preamp	174.00
KP-2/220 220 mast mount preamp	174.00
KP-2/440 440 mast mount preamp	174.00

WATTMETERS

MP-1 160-10m 25/200/2kw PEP wattmeter	\$211.00	189 ⁹⁵
MP-2 6 & 2m 50/500/1.5kw PEP wattmeter	211.00	189 ⁹⁵
MP-3 420-450 MHz wattmeter	240.00	229 ⁹⁵
MP-4 1.2 GHz wattmeter	255.00	239 ⁹⁵

MOTOROLA (MOT)

Belt clip kit for HTsΔm \$ 19.95

NAVAL (NAV)

HTS-2 5-15vdc amplified speaker \$ 29.95

NICAD BATTERIES

GE NICADS (GEX)

2GE3A AAA size nicad	pair	\$ 6.81
2GC1 AA size nicad	pair	6.81
2GC2 C size nicad	pair	8.49
2GC3 D size nicad	pair	8.49
GC9B 9V nicad	each	8.49
BC-4B/Charge 4 Charger for 4 nicads		13.49

NICADS - continued

	Reg	Sale
BC-8B/Charge 8 Charger for 8 nicads		21.99
JABRO NICADS (JAB)		
J/BP-4 Battery; Yaesu FNB-2/A	\$ 24.95	
J/CM-2 Replacement inserts; lcom BP-2	24.25	
J/CM-3 Replacement inserts; lcom BP-3	27.40	
J/CM-5 Replacement inserts; lcom BP-5	30.50	
J/CM-7 Replacement inserts; lcom BP-7	37.20	
J/CM-8 Replacement inserts; lcom BP-8	37.40	
J/CM-7F 13.2v 450ma batt for lcom	72.70	59 ⁹⁵
J/CM-8F 8.4v 850ma batt for lcom	70.00	59 ⁹⁵

NORCOMM (NOR)

NC-401 Sub-miniature DTMF decoder \$ 59.95

NYE VIKING (NYE)

ANTENNA TUNERS AND ACCESSORIES

MBIV-A1 3kw tuner without balun	\$638.00	569 ⁹⁵
MBIV-A2 3kw tuner with balun	693.00	599 ⁹⁵
MBV-A 3kw tuner with ant switch & meters	791.00	699 ⁹⁵
MBV-B As MBV-A, without meters	627.00	549 ⁹⁵
AS-6 6-position 5kw coax switch	65.00	29 ⁹⁵
020-001 2kw low-pass filter	45.00	
RFM-003 3kw power monitor w/3kw coupler	375.00	329 ⁹⁵
RFM-005 5kw power monitor w/5kw coupler	395.00	349 ⁹⁵
C-1.8-30-5C 300/500w coupler	85.00	

PHONE PATCHES

047-001 Phone patch w/4-pin, no spkr	\$143.00	129 ⁹⁵
047-002 Phone patch w/8-pin, no spkr	159.00	144 ⁹⁵
047-003 Phone patch w/8-pin & spkr	170.00	154 ⁹⁵

KEYER AND SQUEEZE PADDLE

ESK-001 Battery operated CMOS keyer	Δm \$ 98.50	39 ⁹⁵
SSK-001 Dual paddle Super Squeeze Key	51.00	49 ⁹⁵

MASTER KEY

330-001 Black enamel base w/cable, plug ... \$ 61.00 59⁹⁵

HEAVY DUTY SPEED-X KEYS WITH NAVY KNOBS

320-001 No shorting switch	\$ 28.60
320-003 As above, w/shorting switch	32.45
322-001 Brass hardware, no switch	30.50
322-003 As above, w/shorting switch	34.65

STANDARD SPEED-X KEYS

310-001 Black, no shorting switch	\$ 26.40
310-003 As above, w/shorting switch	30.25
312-001 Brass arm, no shorting switch	28.60
312-003 As above, w/shorting switch	32.45
315-001 Polished brass oval key, steel base	51.75
315-003 As above, w/shorting switch	57.50

KEY ACCESSORIES

013-001 Navy knob	\$ 7.50	
300-001 Black plastic base for keys ...Δmwfv	8.00	4 ⁹⁵
300-002 Hyv steel base, no-skid feet for keys	15.50	

CODE PRACTICE SETS (BUZZER)

404-001 Code practice set without key	\$ 23.00
404-002 Code practice set w/310-001 key	49.40

Oak Bay Technologies (OAK)

AM-101B BNC duck window mount	\$ 24.95
CA-232HH Handheld packet cable	34.95
CA-232U Universal packet cable	34.95
LP-11P 150db 1kw low-pass filter	69.95
PS-101 Heavy duty DC power strip	79.95

OUTBACKER (OUT)

OB-8 300w PEP 6' 75-10m 8-band mobile ant	\$259.00
OB-8HP 500w PEP 6' 75-10m 8-band mob ant	289.00
OB-S8 8-band mobile ant w/storage bag	289.00
OB-JR8 150w PEP 4' 75-10m 8-band mob ant	229.00
Perth 7.5' 75/40/30/20/17/12/10m mobile ant	269.00
OB-M 300w PEP 6' 75/40/20/17/10m/HF marine	389.00
OB-SB ¾-24 spring and ½" hole base	69.00
Diamond K-400K-3/8M Hole mt w/coax	74.95

Palomar Engineers (PAL)

LA-1 Loop amplifier; matches loop to Rcvr	\$ 99.95
5-15 MHz plug-in loop (HF-1)	89.95
1.6-5 MHz plug-in loop (160m, 80m)	89.95
.55-1.6 MHz plug-in loop (AM broadcast)	89.95
150-550 KHz plug-in loop (LF, 1750m)	89.95
40-150 KHz plug-in loop (WWVB, Loran)	89.95

PALOMAR - continued

	Reg	Sale
10-40 KHz plug-in loop (Omega)		89.95
M-835 Bar graph HF auto SWR/power meter	199.95	189 ⁹⁵
MLB-1 Magnetic longwire receiving balun	39.95	
P-405 1.8-54 MHz 20 db 9v Rcvr preamp	149.95	139 ⁹⁵
P-408 1.8-54 MHz 20 db AC Rcvr preamp	159.95	149 ⁹⁵
P-410X 160-6m 20 db Xcvr preamp	179.95	169 ⁹⁵
P-412X 160-6m 20 db mobile Xcvr preamp	179.95	169 ⁹⁵
PA-351 Indoor active receive antenna	Δm 129.95	49 ⁹⁵
PF-300 SC audio filter	159.95	149 ⁹⁵
PK-200 Jones dual-paddle key	135.00	129 ⁹⁵
PT-340 Tuner-Tuner (use with ant tuner)	99.95	
RX-100 1-100 MHz RX noise bridge	79.95	
SB-4 2kw 1.7-30 MHz 4:1 balun w/SO-239	79.95	
VLF-A VLF converter; 10-500 KHz to 80m	79.95	
VLF-S VLF conv; 10-500 KHz to 4-4.5 MHz	79.95	

PANASONIC (PAN)

RF-B45 Compact FM/LW/MW/SW port Rcvr	\$199.95	179 ⁹⁵
RF-B65 Compact FM/LW/MW/SW port Rcvr	279.95	249 ⁹⁵

PERIPHEx (PER)

BP-7S 13.2v 1200ma battery for lcom	\$ 65.00
BP-8S 8.4v 1200ma battery for lcom	65.00
BP-83S 7.2v 750ma battery for lcom	43.50
BP-84S 7.2v 1400ma battery for lcom	40.00
BP-85S 12v 800ma battery for lcom	76.00
BP-114S 12v 800ma battery for lcom	79.00

FNB-12 12v 600ma battery for Yaesu	40.00
FNB-14S 7.2v 1400ma battery for Yaesu	59.75
FNB-26S 7.2v 1400ma battery for Yaesu	65.00
FNB-27S 12v 800ma battery for Yaesu	65.00

EBP-22S 12v 800ma battery for Alinco	65.00
EBP-24S 7.2v 1500ma battery for Alinco	40.00

PB-8S 12v 800ma battery for Kenwood	59.00
PB-13S 7.2v 1200ma battery for Kenwood	40.00
PB-14S 12v 400ma battery for Kenwood	60.00

PHILIPS (PHI)

U-105 Light duty rotor	\$ 99.90	69 ⁹⁵
TB-105 Thrust bearing	18.25	

PICQUIC (PIC)

90101 Full size 6-in-1 screwdriver set	\$ 16.95
91102 Stubby 6-in-1 screwdriver set	12.95

PIPO TOUCH-TONE PADS (PIP)

PK-1 12-digit pad	\$ 71.00
PK-1K 12-digit pad w/delay relay	78.00
PK-1M 12-digit pad for surface mtg	71.00
PK-2 16-digit pad	76.00
PK-2K 16-digit pad w/delay relay	83.00
PK-2M 16-digit pad for surface mtg	76.00

PK-3-12 12-dig pad w/separate electronics Δm	58.00	49 ⁹⁵
PK-3-16 16-dig pad w/separate electronics Δm	63.00	49 ⁹⁵

PP-5 12-digit horizontal pad w/light	Δm 69.00	59 ⁹⁵
PP-5K 12-digit horiz pad w/light & relay Δm	76.00	69 ⁹⁵
PP-5V 12-digit vertical pad w/light	69.00	

P-7H 12-digit horiz rugged mini pad	58.00
P-7V 12-digit vertical rugged mini pad	58.00
P-8V 16-digit vertical rugged mini pad	63.00

POLYPHASER (PLY)

LIGHTNING PROTECTION

IS-50NX-C2 125-1000 375/125/50w N flange	\$ 52.95
IS-50UX-C2 1.5-400 2kw/375/125w flange mt	52.95
IS-50UX-C1 50-700MHz 375/125w flange mt	52.95
IS-B50LN-C2 125-1000 375/125/50w N bulkhead	59.95
IS-B50LU-C2 1.5-400 2kw/375/125w bulkhead	59.95
IS-B50LU-C1 50-700MHz 375/125w bulkhead mt	59.95
IS-PLD0-120-15A 120v 15A power protector	143.95
IS-PLD0-120-20A 120v 20A power protector	179.95
IS-RCT 8-wire rotor control protector	46.95
IS-SPTL Single phone line protector	57.95

1.5" STRAP 1½" copper strap	per linear ft. .95
3" STRAP 3" copper strap	per linear ft. 2.75
6" STRAP 6" copper strap	per linear ft. 3.95
AL-SPGP Alum single point ground panel	52.95
CU-SPGP Copper single point ground panel	52.95

PORTASOL (GC) (GCT)

P-1C/12-143 Portable butane soldering iron Δm \$ 29.99 14⁹⁵

PRO AM by VALOR (VAL)

VHF/UHF ANTENNAS ONLY (No Mounts)

MO144-440 2m/440 antenna	\$ 21.90
PAQA 136-515 MHz ¼ wave antenna	8.00
PAQ-144 2m ¼ wave antenna	8.00
PAQ-435 440 ¼ wave antenna	8.00
PAQ-3820 2m ¼ wave whip w/24 thread ...	8.00
PHB-144 2m ¼ wave 3 db antenna	31.80
PHB-220 220 ¼ wave 3 db antenna	31.80
PUB-440 440 5 db antenna	39.80

MOUNTS ONLY FOR ABOVE ANTENNAS

PAM Low profile magnet mount w/coax	\$ 28.40
PAS ¾" surface mount w/coax	20.00
PASMO ¾" surface mt only (no coax)	7.90
PAS38 ¾" surface mount w/coax	20.00
PAS38MO ¾" surface mt only (no coax)	7.90
PAT-2 No hole trunk mount w/coax	27.90
PAT-3 Swivel NMO-style trunk mt w/coax	35.80

OTHER VHF/UHF ANTENNAS & MOUNTS

77BNC 2m/440 12" 0/2.1db BNC rubber duck	\$ 23.90
144BNC 2m 12" ¼ wave rubber duck w/BNC ..	11.00
220BNC 220 10" ¼ wave rubber duck w/BNC ..	11.00
450BNC 440 6½" ¼ wv rubber duck w/BNC	11.00
BNC-SC Suction cup extension; rubber ducks	14.70
WMSL-BNC Window clip for rubber ducks ...	42.80 39 ⁹⁵
82BNC Magnet mt for BNC w/coax	27.00
101ADN HD alum mirror mt w/SO-239	7.20
116N Gutter mt for ¾-24 up to 48"	9.40
301 ¾-24 magnet mt only w/coax	22.40
401 Low profile ¾-24 mag mt only w/coax	27.80
DAK Mt for 2 vert ants or horizontal dipole ...	13.80
GM-100AD SS GM ¾-24 mirror mt w/SO-239 ..	10.60
GM-100ADT Alum GM ¾-24 mirror mt, /SO-239 ...	10.60
GM-270 2m/440 2.6/6.3db on glass antenna	59.95 49 ⁹⁵
MM-3401 Maxi-mag mt ¾-24 kit (3-5" mags)	59.90 49 ⁹⁵
SS-100MOT 3-way NMO mirror mt w/coax	23.80
CX-144 2m ¼ wave 3 db ¾-24 whip	17.90
CX-220 220 ¼ wave 3 db ¾-24 whip	17.90
MM-270B 2m/440 mini mag mt ant w/BNC ..	56.60 39 ⁹⁵
PAQM 144-450 MHz ¼ wave BNC mag ant	28.80
PM-144-440BN 2m/440 BNC mag mt ant	33.90 29 ⁹⁵
TGS 30-1200MHz on-glass scanner ant	51.90
VAA-002 144-450 MHz ¼ wave mag mt ant ...	23.80 19 ⁹⁵
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120 Sawtooth hump mt for mobile radios	5.60
D-270 2m/440 100w duplexer	45.90 39 ⁹⁵
DB-240 2m/440 base station antenna	105.20 79 ⁹⁵
PDC-9 2m/440 0-50/0-60w SWR/pwr meter ..	52.95 49 ⁹⁵

MOBILE HF ANTENNAS (No Mounts)

AB-5 75/40/20/15/10m antenna	\$119.60
PHF-160 160m 8' ¾-24 whip	97.80
PHF-75 75m 8' ¾-24 whip (4' coil, 4' whip) ..	29.80
PHF-40 40m 8' ¾-24 whip (4' coil, 4' whip) ..	23.80
PHF-20 20m 8' ¾-24 whip (4' coil, 4' whip) ..	23.80
PHF-15 15m 8' ¾-24 whip (4' coil, 4' whip) ..	23.80
PHF-10 10m 8' ¾-24 whip (4' coil, 4' whip) ..	23.80

QSL Card Holders (ART)

QSL Card Holders, pack of 3, 20 cards/holder . \$ 9.95

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VHF1-60 2m 1/60w HT amplifier	\$259.95 239 ⁹⁵
VHF1-60HEL 2m 3 resonator helical filt Δm	29.95
2-23 2m FM/SSB 2/30w amp/preamp	149.95 139 ⁹⁵
2-315 2m FM/SSB 30/150w amp/preamp	299.95 269 ⁹⁵
2-417 2m FM/SSB 45/170w amp/preamp	299.95 269 ⁹⁵
2/70 2m/440 FM 3/30/5/20w HT amp	259.95 239 ⁹⁵
2/70G 2m/440 FM 3/30/5/20w HT amp/preamp .	289.95 259 ⁹⁵
2/70H* 2m/440 20/200/20/100w amp	849.95 719 ⁹⁵

*Requires 28 volts; information on combining power supplies included in operations manual.

3-22 220 FM/SSB 2/20w amp/preamp	149.95 139 ⁹⁵
3-211 220 FM/SSB 2/110w amp/preamp	359.95 329 ⁹⁵
3-112 220 FM/SSB 10/120w amp/preamp	359.95 329 ⁹⁵
3-312 220 FM/SSB 30/120w amp/preamp	329.95 299 ⁹⁵

RF CONCEPTS - continued

UHF-50 440 3/50w HT amplifier	299.00 279 ⁹⁵
4-32 440 FM/SSB 3/20w amp/preamp	199.95 184 ⁹⁵
4-110 440 FM/SSB 10/100w amp/preamp	399.95 369 ⁹⁵
4-310 440 FM/SSB 30/100w amp/preamp	379.95 349 ⁹⁵

RF PARTS (See Diamond)

RF PRODUCTS (RFP)

196-214 2m ¼ wave BNC telescopic whip	\$ 8.95
199-416 BNC mag mt, 10' coax w/BNC	17.95
199-495 SO-239 mag mt, 13' coax w/PL-259	23.95

Radio Amateur Callbook (RAC)

087158 1994 North American Callbook	\$ 29.95
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059243 1993 World Radio TV Handbook	19.95
087832 Radio Amateurs World Atlas	14.95
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08776X/RC0011 Map of North America	9.95
087778/RC0012 Great Circle Map	9.95

RADIO PUBLICATIONS

087034 All About Cubical Quad Antennas ...	\$ 11.95
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087069 Radio Amateur Antenna Handbook	11.95
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087093 Interference Handbook	11.95
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GW0001 Complete Novice (code/theory) ..Dmw	\$ 59.95 49 ⁹⁵
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GW0013 Complete Advanced (5-13wpm) Dmf	59.95 49 ⁹⁵
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RCI-2970 100w FM/SSB 10m Xcvr	699.00 399 ⁹⁵

ROHN TOWERS (ROH)

HBX-40/BXB-6 40' tower, 10 sq ft, 228 lbs *T	\$444.90 379 ⁹⁵
HBX-48/BXB-7 48' tower, 10 sq ft, 303 lbs *T	595.30 499 ⁹⁵
HBX-56/BXB-8 56' tower, 10 sq ft, 385 lbs *T	751.70 629 ⁹⁵
HDBX-40/BXB-7 40' tower, 18 sq ft, 281 lbs *T	553.30 469 ⁹⁵
HDBX-48/BXB-8 48' tower, 18 sq ft, 363 lbs *T	736.70 619 ⁹⁵

*Drop-shipped from factory or limited stock in Milwaukee for pick-up

On factory drop-shipsments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB the Rohn factory, which has various locations, via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these drop-shipped towers. Most truck lines will not unload the tower for you, so please be sure to have enough manpower and/or equipment on hand when your tower is delivered by the carrier.

Note: Rohn states that "antennas developing a large twisting moment due to wind must not be used on HBX/HDBX-series towers. Antennas should be limited to those having a maximum boom length of 10 ft."

SGC (SGC)

04-01 SG-2000 150w 1.8-30 MHz 12v Xcvr ..	1995.00 1499
04-02 .5-30 MHz 12v Rcvr (special order)	1700.00 1529
04-03 150w 1.8-30MHz 12v Xmtr (spec order)	1700.00 1529
04-11 Remote head w/yoke mount & cable	695.00 629 ⁹⁵
04-12 Remote kit w/swivel bkt & cable	200.00 179 ⁹⁵

SGC - continued

04-13 Remote kit w/5-way mount & cable .	350.00 319 ⁹⁵
04-14 Rem kit w/suction cup mt & cable	495.00 449 ⁹⁵
51-81 Fan kit for continuous duty xmit	300.00 269 ⁹⁵
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52-32 Telephone handset	150.00 139 ⁹⁵
52-34 RS-232 interface for SG-2000 Xcvr ..	195.00 179 ⁹⁵
52-46 Mounting tray	50.00
52-47 Shock/military mounting tray	300.00 269 ⁹⁵
52-51 CA-1 High voltage feed wire ..per ft.	70¢
52-52 CA-2 RG-58 coax cable .....per ft.	90¢
52-53 CA-230 Ant coupler cable .....per ft.	4.00
52-54 CA-2000 Remote head cable ..per ft.	4.00
52-56 CA-4 RG-8A/U coax cable .....per ft.	1.10
53-03 PS-35/AC 30A/45A peak HD ps	700.00 629 ⁹⁵
52-61 PSC/12-1 12' ps cable, 1 plug	50.00
52-62 PSC/12-2 12' ps cable, 2 plugs	60.00
52-63 PSC/25-1 25' ps cable, 1 plug	60.00
52-64 PSC/25-2 25' ps cable, 2 plugs	70.00
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55-04 SG-103 1.8-30 MHz broadband 150w dipole	195.00 189 ⁹⁵
55-06 SG-104 2-28 MHz 90' 1kw dipole	700.00 629 ⁹⁵
55-27 SG-303 1.8-30 9' mobile whip & mt ..	495.00 399 ⁹⁵
55-67 Replacement whip for SG-303	150.00 139 ⁹⁵
55-41 SG-104 2-28MHz 90' 1kw dipole w/coax .	750.00 679 ⁹⁵
55-45 QMS Quick universal mount system ...	490.00 399 ⁹⁵
55-46 QMS-1 Quick mt system w/SG-230	1085.00 869 ⁹⁵
55-47 QMS-2 Quick mt sys w/SG-230/303 ...	1435.00 1199
55-91 60' RG-58/U coax w/PL-259s	50.00
55-92 120' RG-58/U coax w/PL-259s	70.00
55-93 60' RG-8 coax w/PL-259s	80.00
55-94 120' RG-8 coax w/PL-259s	120.00
55-95 150' total extension; SG-103/104	70.00
56-15 External ARQ/FEC system	1200.00 1069
90-30 SG-2000-RS Spares kit for SG-2000 ..	789.00 709 ⁹⁵
90-31 SG-2000-DS Depot spares kit; SG-2000 .	1512.00 1349
90-32 SG-2000-CS Dlx spares kit; SG-2000 .	3953.00 3549
91-92 SG-2000-MM Maint manual; SG-2000	70.00

Call for quote on SGC commercial ALE system

SAMS Books (SAM)

Active Filter Cookbook	\$ 24.95
CMOS Cookbook	24.95
IC OP-AMP Cookbook	24.95
IC Timer Cookbook	24.95
Radio Handbook	39.95
Radio Operators Commercial License Q & A Manual	24.95

SANGEAN (SAN)

ATS-202 AM/FM/SW portable receiver	\$159.00 99 ⁹⁵
ATS-803A AM/FM/shortwave portable Rcvr	249.00 189 ⁹⁵
ATS-808 AM/FM/shortwave portable Rcvr	259.00 189 ⁹⁵
ATS-818CS AM/FM/SW port Rcvr w/cassette ..	359.00 269 ⁹⁵
DT-200V AM/FM/VHF TV sound dig port Rcvr .	79.95 69 ⁹⁵

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376-GB 10m 18' tunable fg base ant (UPS OK) .	\$ 91.50 59 ⁹⁵
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444D High/low-Z desk microphone	\$ 92.25 79 ⁹⁵
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526T Series II Dynamic amplified desk mic ..	124.00 109 ⁹⁵
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RDS-2 2m stubby rubber duck antenna	14.95	
RDS-220 220 stubby rubber duck antenna	14.95	
RDS-440 440 stubby rubber duck antenna	14.95	
SD-2 2m Slim Duck thin rubber antenna	14.95	
SD-220 220 Slim Duck thin rubber antenna ..	14.95	
SL-440 440 slimline type duck	12.95	
SS-II Super Stick 2m 3/4 wv telescopic ant	19.95	
SS-III Super Stick 220 3/4 wv telescopic ant ...	19.95	
SS-IV Super Stick 440 3/4 wv telescopic ant	19.95	
SS-II/Combo 2m 3/4 wv telescopic & stubby ant ..	26.95	
SS-III/Combo 220 3/4 wv telescopic & stubby ant ..	26.95	
SS-IV/Combo 440 3/4 wv telescopic & stubby ant ..	26.95	
TAQ-2 2m 3/4 wave stainless whip	10.95	
TAQ-220 220 3/4 wave stainless whip	10.95	
TAQ-440 440 3/4 wave stainless whip	10.95	
TS Thin Stick 2m/220 3/4 wave telescopic whip ..	16.95	

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A-99 10m fiberglass base station antenna ...	\$ 74.95	59 ⁹⁵
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SOLDER-IT (SLD)

ALP-21D Aluminum solder paste, 7.1gm	\$ 6.00	
SP-7D Solder paste, 7.1 gm	6.00	

SONY (SON)

CRF-V21 Dlx FM/SW Rcvr w/FAX printer ...Dm	7000.00	1299
ICF-7601 AM/FM/SW portable receiver Dmwf	159.95	119 ⁹⁵
ICF-2010 AM/FM/SW/LW/air port Rcvr w/ps ..	519.95	349 ⁹⁵
DCC-127A Car cord	36.00	
ICF-SW15 AM/FM/SW compact receiver	419.95	299 ⁹⁵
ICF-SW15 AM/FM/SW portable receiver	99.95	89 ⁹⁵
ICF-SW33 AM/FM/SW portable receiver	259.95	169 ⁹⁵
ICF-SW55 AM/FM/SW portable receiver	469.95	369 ⁹⁵
ICF-SW77 AM/FM/SW portable receiver	679.95	499 ⁹⁵
ICF-SW800 AM/FM/SW port Rcvr/prog cards ..	179.95	129 ⁹⁵
ICF-SW7600 AM/FM/SW receiver	299.95	219 ⁹⁵
ACD-4L AC power supply for PRO-80	21.95	14 ⁹⁵
AN-1 LW/MW/SW outdoor active receive ant ..	139.95	129 ⁹⁵
AN-3 Aircraft active receive antenna	129.95	119 ⁹⁵
AN-102 LW/MW/SW indoor active receive ant ..	99.95	89 ⁹⁵
IPS-360 GPS Rcvr w/batt case	699.00	499 ⁹⁵
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ANSWERING MACHINE

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ITD10 Scratch pad memory	\$ 69.99	49 ⁹⁵
ITD20 2-line, distinctive ring for each line	99.99	79 ⁹⁵

CORDLESS PHONES

SPP160 10 ch, spkr phone, 2-way intercom ..	\$249.99	149 ⁹⁵
SPP320 10 ch, top of the line, 2 phones in 1 ..	329.99	219 ⁹⁵
SPPD15 2-line, 10 number memory redial	269.99	179 ⁹⁵

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HDT-3E-PPK 3' boxed tripod	\$ 17.95	
HDT-5E-PPK 5' boxed tripod	25.95	

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C-158A Dlx mini 2m FM HT/batt/cgr/TTP	\$339.00	CALL
C-228A 2m/220 FM HT/batt/cgr/TTP/CTCSS ..	695.00	CALL
C-528A 2m/440 FM HT/batt/cgr/TTP/CTCSS ..	495.00	CALL
C-558A 2m/440 FM HT/batt/cgr/TTP/CTCSS ..	689.00	CALL
C-628A 440/1.2 FM HT/batt/cgr/TTP/CTCSS ..	727.00	CALL
CAX-02 Bottom cover	12.00	
CAW-150 Mobile power supply cable	16.00	
CAW-151 12vdc power supply cable	13.00	
CBT-151 Battery case	19.00	
CHP-111 Headset mic w/PTT switch	43.00	
CHP-150 Headset mic w/VOX	78.00	
CLC-520 Std carrying case; 228A/528A	23.00	
CLC-521 Large carrying case; 228A/528A ..	26.00	
CLC-550 Standard carrying case; 558A	26.00	
CLC-551 Large carrying case; 558A	29.00	
CLC-555GN Green case for 558A	33.00	
CLC-555OR Orange case for 558A	33.00	
CMB-111 Mobile bracket	20.00	
CMC-150 Mobile charger	26.00	
CMP-111 Speaker/mic	52.00	
CMP-113 Tie-pin spkr/mic	42.00	
CMP-115 Mini speaker/mic	48.00	
CMU-160 40 ch memory; 558A/168A	30.00	
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CNB-151 Extra 7.2v 700ma nicad batt	76.00	
CNB-152 12v 600ma nicad battery	99.00	
CNB-153 7.2v 1000ma nicad battery	95.00	
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CAX-03 Bottom cover	12.00	
CAX-160 Remote battery adapter	48.00	
CBT-160 Battery case	19.00	
CHP-111 Headset mic w/PTT switch	43.00	
CHP-150 Headset mic w/VOX	78.00	
CLC-160 Mini carrying case	25.00	
CLC-161 Mini carrying case	25.00	
CLC-162 Mini carrying case	26.00	
CMP-111 Speaker/mic	52.00	
CMP-113 Tie-pin spkr/mic	42.00	
CMP-115 Mini speaker/mic	48.00	
CMU-160 40 ch memory; 168A/558A	30.00	
CMU-161 200 ch memory; 168A/558A	42.00	
CNB-160 Mini 6v 300ma nicad battery	69.00	
CNB-161 Mini 7.2v 700ma nicad battery	73.00	
CNB-162 Mini 12v 600ma nicad battery	99.00	
CNB-163 Mini 7.2v 1000ma nicad batt	99.00	

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CSA-181A Desk rapid charger	124.00	119 ⁹⁵
C-188A Thin sub-mini 2m HT/batt/cgr/TTP ...	489.00	CALL
C-288A Thin sub-mini 220 HT/batt/cgr/TTP ..	499.00	CALL
CBT-181 Battery case for 4 AA	16.00	
CBT-182 Battery case for 5 AA	26.00	
CHP-111 Headset mic w/PTT switch	43.00	
CHP-150 Headset mic w/VOX	78.00	
CLC-181 Carrying case w/CNB-181	20.00	
CLC-182 Carrying case w/CNB-182/3/4	23.00	
CMA-181 Mobile adapter	36.00	
CMP-111 Speaker/mic	52.00	
CMP-113 Tie-pin spkr/mic	42.00	
CMP-115 Mini speaker/mic	48.00	
CMU-182 200 ch memory for C-188A/288A ..	42.00	
CNB-181 4.8v 700ma nicad battery	54.00	
CNB-182 9.6v 600ma nicad battery	99.00	
CNB-183 6v 1100ma nicad battery	90.00	
CNB-184 6v 700ma nicad battery	63.00	
CSA-181A Desk rapid charger	124.00	119 ⁹⁵
C-5608DA 50/40w 2m/440 FM Xcvr w/TTP ...	890.00	CALL
CSK-12 External speaker	45.00	
CTN-5600 Encoder/decoder; early units	68.00	
C-5718DA 50/40w 2m/440 FM Xcvr/packet ...	849.00	CALL
CCR-708A 50-905 MHz spectral display Rcvr	750.00	CALL

STARTEK (STR)

15-BG 1-1500MHz bar graph ultra hi sens ctr	\$220.00	169 ⁹⁵
15-UHS 1-1500 MHz ultra high sens ctr	159.00	149 ⁹⁵
35-BG 1-3200 MHz bar graph ultra hi sens ctr ..	265.00	229 ⁹⁵
1350 1-1300 MHz frequency counter	129.00	119 ⁹⁵
2500 10 Hz-2400 MHz frequency counter	210.00	189 ⁹⁵
3500 10 Hz-3500 MHz frequency counter	250.00	219 ⁹⁵
ATH-15 1-1500MHz bar graph freq counter ...	235.00	199 ⁹⁵
ATH-15/OS 1-1500Mhz ctr w/1-shot opt	275.00	239 ⁹⁵
ATH-15/OS/HS 1500MHz/1-shot/hi stab	375.00	339 ⁹⁵
ATH-30 1-2800MHz bar graph ctr w/1-shot ...	299.00	259 ⁹⁵
ATH-30/HS 2800MHz/1-shot/hi-stability	399.00	359 ⁹⁵
ATH-50 5Hz-2800MHz bar/auto trig/hi speed ..	339.00	289 ⁹⁵
ATH-50/HS 2800MHzr/trig/hi spd/hi stability ..	439.00	389 ⁹⁵
CC-90 Carrying case	12.00	
DC-10 Direct probe	20.00	
HP-400 400 - 1500 MHz bandpass filter	69.00	
HP-800 800 MHz - 2 GHz bandpass filter ...	69.00	
LP-22 Lo-pass probe	25.00	
LM-60 DC - 60 MHz bandpass filter	69.00	
M-207IC Interface cable	10.00	
P-110 200 MHz X1-X10 probe	49.00	39 ⁹⁵
RD-2750 27-50MHz rubber duck antenna ..	28.00	
RD-150 150MHz rubber duck antenna	16.00	
RD-450 450MHz rubber duck antenna	16.00	
RD-800 800MHz rubber duck antenna	29.00	
TA-90 Telescopic antenna	12.00	
TA-90L Right angle telescopic antenna	16.00	

TPS (TPS)

PS-75 75A ps w/fan, 100A surge	Δm \$430.00	229 ⁹⁵
PS-45 45A power supply w/fan	Δmw 320.00	179 ⁹⁵
PS-30 30A power supply	Δmw 212.00	119 ⁹⁵
PS-15 15A power supply	Δmw 150.00	79 ⁹⁵
Rack Mount	Δmw 48.00	19 ⁹⁵

TPS not recommended for HF Transceivers

TAB Books (TAB)

Shortwave Listener's Ant Handbook/1487 Δm	\$ 17.60	13 ⁹⁵
How to be a Ham 3rd Edition	13.60	
Complete Shortwave Listener	17.60	
Advanced Appleworts	17.60	

TEMPO (TEM)

BP-15 Extra battery pack; S-15/S-15T	Δm \$ 39.00	
TS-BP2 Extra 450ma batt; S-2/4/5/late S-1 ..	Δm 39.00	

TEN-TEC (TEN)

216 500 Hz 6-pole FSK filter (9 MHz)	Δm \$ 74.00	39 ⁹⁵
219 250 Hz 8-pole CW filt (9 MHz); 562	Δm 74.00	39 ⁹⁵
220 2.4 KHz 8-pole SSB filt (9 MHz); 562	Δm 74.00	59 ⁹⁵
259 Universal ALC annunciator; 585	Δm 39.00	9 ⁹⁵
264 Rem control extension cbl; 420/253	Δm 32.00	19 ⁹⁵
300 12' extension cable for 9423	Δm 45.00	9 ⁹⁵
81561 Vacuum relay board for 422	Δm 93.00	49 ⁹⁵
4030 30m antenna, 72" high	Δm 37.00	9 ⁹⁵

TEN-TEC - continued

	Reg	Sale
4012 12m antenna, 72" high	Δm	30.00
3101L 49" top section stinger	Δm	9.00
CONSTRUCTO SERIES EQUIPMENT ENCLOSURES		
BU-625 Blue, 6"W x 2½"H x 5"D		\$ 30.06
BU-649 Blue, 6"W x 4"H x 9"D		36.78
BU-927 Blue, 9"W x 2½"H x 7"D		34.53
BU-945 Blue, 9"W x 4"H x 5"D		34.59
BU-949 Blue, 9"W x 4"H x 9"D		41.03
BU-959 Blue, 9"W x 5½"H x 9"D		42.40
BU-1227 Blue, 12"W x 2½"H x 7"D		37.68

GREY PANELS W/BLACK SIDE PANELS

DG-8 8"W x 4½"H x 10½"D	\$ 22.78
JG-8 8½"W x 2½"H x 6"D	12.99
LG-5 5"W x 3½"H x 7"D	11.46
LG-10 10½"W x 3½"H x 7"D	16.90
MG-8 4½"W x 8½"H x 6½"D	16.36

H-SERIES BOX

HG-8 Low profile, 8"W x 4½"H x 6"D	\$ 16.15
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WALNUT TRIM W/BEIGE PANELS

DW-12 12"W x 4½"H x 10½"D	\$ 30.78
JW-10 10½"W x 2½"H x 6"D	16.30
LW-5 5"W x 3½"H x 7"D	13.66
LW-6 6"W x 3½"H x 7"D	15.04
LW-10 10½"W x 3½"H x 7"D	18.41
MW-8 4½"W x 8½"H x 6½"D	19.08
MW-12 4½"W x 12½"H x 6½"D	23.28

GREY W/BLACK TOP COVER

TG-24 4½"W x 1½"H x 4½"D	\$ 7.96
TG-26 6½"W x 1½"H x 4½"D	9.03
TG-28 8½"W x 1½"H x 6½"D	11.59
TG-36 6½"W x 3"H x 4½"D	10.01
TG-38 8½"W x 3"H x 6½"D	14.41

UNPAINTED

TP-13 3½"W x 1½"H x 2½"D	\$ 4.18
TP-17 4½"W x 1½"H x 3½"D	5.47
TP-20 5"W x 2½"H x 4½"D	5.78
TP-42 5½"W x 2½"H x 4½"D	6.79
TP-44 6½"W x 2½"H x 5½"D	7.19
TP-46 7"W x 2½"H x 5½"D	8.74
TP-48 7½"W x 3½"H x 6½"D	10.23
TP-50 8½"W x 3½"H x 6½"D	11.49

BEIGE W/WALNUT TOP COVER

TW-26 6½"W x 1½"H x 4½"D	\$ 9.03
TW-28 8½"W x 1½"H x 6½"D	11.59

TIMEWAVE (TIM)

DSP-9 Digital signal processing unit	\$169.00
DSP-59 Dlx digital signal processing unit	299.00

TUBES (TUB)

6146B Tube	†,each \$ 19.95
12BY7A Tube	each 14.50
3-500G High dissipation tube (3-500Z)	each 129.95
572B For Yaesu, etc.	†,each 79.95
811A For Collins, etc.	each 25.00

Also see EIMAC

US TOWER (UST)

FREE STANDING CRANK-UPS (T^X not recommended)

TX-438 38' crank-up tower	T 1019.00	917
TX-455 55' crank-up tower	T 1539.00	1385
TX-472 72' crank-up tower	T 2529.00	2276
TX-472MDP 72' crank-up w/motor drive	T 4069.00	3662
TX-489 89' crank-up tower	T 4399.00	3959
TX-489MDPL 89' crank-up w/motor drive	T 6599.00	5939

FREE STANDING HEAVY DUTY CRANK-UP TOWERS

HDX-538 38' crank-up tower	T 1319.00	1187
HDX-555 55' crank-up tower	T 2309.00	2078
HDX-572 72' crank-up tower	T 3959.00	3563
HDX-572MDPL 72' crank-up w/motor drive	T 6049.00	5444
HDX-589MDPL 89' crank-up w/motor drive	T 7919.00	7127
HDX-689MDPL 89' HD crank-up w/motor	T 16999.95	15299
HDX-5106MDPL 106' HD crank-up w/motor	T 18499.95	16649

COMPACT TMM (Top mount rotor for full retraction)

TMM-433SS 33' crank-up tower	T 1089.00	980
TMM-433HD 33' HD crank-up tower	T 1319.00	1187
TMM-541SS 41' crank-up tower	T 1429.00	1286

US TOWER - continued

ACCESSORIES FOR CRANK-UP TOWERS

CX-2 Coax arms (2) for 2-section tower	\$ 49.00	
CX-3 Coax arms (3) for 3-section tower	69.00	
CX-4 Coax arms (4) for 4-section tower	109.00	
CX-5 Coax arms (5) for 5-section tower	149.00	134
HDP Service platform	T 739.00	665
IV-16 Inverted vee arm for MA's	33.00	
M-5 2" OD 5' mast extension for MA's	36.00	
M-10 2" OD 10' mast	T 69.00	
M-15 2" OD 15' mast	T 103.00	
M-15R 2" OD 15' reinforced mast	T 155.00	140
M-20 2" OD 20' mast	T 136.00	122
M-20R 2" OD 20' reinforced mast	T 205.00	184
CM-20 2" OD 20' .375 wall mast	T 409.00	368
MD-75 Heavy duty 1 HP motor drive	T 989.00	890
MDP-750 Pull-down drive; TX-472/HDX-555 T	1539.00	1385
MDPL-1000 Pull-down drive; HDX-572	T 2089.00	1880
MRF Mast raising fixture	239.00	215
MCL-100 Limit switch package	389.00	350
RMC-1000 Remote control w/limit switch	989.00	890
RP-3 Rotor plate for 10" section	18.00	
RP-4 Rotor plate for 12½" section	23.00	
RP-5 Rotor plate for 15" section	29.00	
STS-4 Rotor accessory for TX/TMM towers ...T	189.00	170
TB-2US Thrust bearing; 2" mast w/2 flange holes ..	89.00	
TRX-80 Raising fixture; TX-438/455; HDX-538/555 ..T	409.00	368
TRX-80HD Raising fixture; TX-472/489; HDX-572/589 ..T	539.00	485

MA-SERIES TUBULAR TOWERS

MA-40 40' crank-up mast	†T \$809.00	629
MA-550 55' crank-up mast	†T 1369.00	999
MA-550MDP 55' crank-up mast w/motor	T 2909.00	2618
MA-770 70' crank-up mast	T 2509.00	2258
MA-770MDP 70' crank up mast w/motor	T 3969.00	3572
MA-850MDP 85' crank-up mast w/motor	T 5349.00	4814

MA-SERIES ACCESSORIES

CX-2M Coax arms (2) for MA-40	\$ 53.00	
CX-3M Coax arms (3) for MA-550	79.00	
CX-4M Coax arms (4) for MA-770	132.00	119
CX-5M Coax arms (5) for MA-850	159.00	143
MAB-40 Hinged base for MA-40	T 359.00	323
MAB-550 Hinged base for MA-550	T 429.00	386
MAB-770 Hinged base for MA-770	T 519.00	467
MAB-850 Hinged base for MA-850	T 629.00	566
MAF-40 Raising fixture for MA-40	209.00	188
MAF-550 Raising fixture for MA-550	T 289.00	260
MAF-770 Raising fixture for MA-770	T 309.00	278
MAF-850 Raising fixture for MA-850	T 409.00	368
MARB-40 Rotor base accessory for MA-40 ...T	549.00	494
MARB-550 Rotor base accessory for MA-550 T	649.00	584
MARB-770 Rotor base accessory for MA-770 T	769.00	692
MARB-850 Rotor base accessory for MA-850 T	909.00	818
MCL-100 Limit switch package	389.00	350
RMC-1000 Remote control w/limit switch	989.00	890

All US TOWER products are drop-shipped (shipped direct to you from the US TOWER factory). On these factory drop-shipsments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB Visalia, California via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these special order products. Most truck lines will not unload the tower for you, so please be sure to have enough manpower and/or equipment on hand when your tower is delivered by the carrier.

UNADILLA (See W2AU)

UNIDEN (UNI)

HR-2600 25w 10m FM/SSB Xcvr	D* \$489.95	199 ⁹⁵
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Unified Microsystems (UNM)

W9XT Contest card for IBM PC & compatible	\$179.95	
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Universal Towers (UNT)

4-30 4 sq ft wind load 30' alum tower	T \$335.00	302
9-30 9 sq ft wind load 30' alum tower	T 451.00	406
12-30 12 sq ft wind load 30' alum tower	T 593.00	534
21-30 21 sq ft wind load 30' alum tower	T 704.00	634

UNIVERSAL - continued

23-30 23 sq ft wind load 30' alum tower	T 932.00	839
35-30 35 sq ft wind load 30' alum tower	T 1050.00	945
4-40 4 sq ft wind load 40' alum tower	T 562.00	506
7-40 7 sq ft wind load 40' alum tower	T 706.00	635
9-40 9 sq ft wind load 40' alum tower	T 787.00	708
12-40 12 sq ft wind load 40' alum tower	T 932.00	839
15-40 15 sq ft wind load 40' alum tower	T 1042.00	938
21-40 21 sq ft wind load 40' alum tower	T 1157.00	1041
23-40 23 sq ft wind load 40' alum tower	T 1385.00	1247
4-50 4 sq ft wind load 50' alum tower	T 792.00	713
5-50 5 sq ft wind load 50' alum tower	T 900.00	810
7-50 7 sq ft wind load 50' alum tower	T 1013.00	913
9-50 9 sq ft wind load 50' alum tower	T 1126.00	1013
15-50 15 sq ft wind load 50' alum tower	T 1496.00	1346
16-50 16 sq ft wind load 50' alum tower	T 1614.00	1453
4-60 4 sq ft wind load 60' alum tower	T 1127.00	1014
6-60 6 sq ft wind load 60' alum tower	T 1382.00	1244
7-60 7 sq ft wind load 60' alum tower	T 1471.00	1324
9-60 9 sq ft wind load 60' alum tower	T 1577.00	1419
3-70 3 sq ft wind load 70' alum tower	T 1469.00	1322
4-70 4 sq ft wind load 70' alum tower	T 1805.00	1625
6-70 6 sq ft wind load 70' alum tower	T 1838.00	1654
7-70 7 sq ft wind load 70' alum tower	T 1922.00	1729
3-80 3 sq ft wind load 80' alum tower	T 1920.00	1728
4-80 4 sq ft wind load 80' alum tower	T 2293.00	2064
2-90 2 sq ft wind load 90' alum tower	T 2375.00	2138
B-14 Base for tower	60.58	55
B-18 Base for tower	60.58	55
B-22 Base for tower	106.04	95
B-26 Base for tower	136.33	123
RFM-14 Flat roof mt for guyed tower	42.32	38
RFM-18 Flat roof mt for guyed tower	66.69	60
RFM-22 Flat roof mt for guyed tower	99.96	90
RFM-26 Flat roof mt for guyed tower	133.33	120
R-11 Rotor mount	30.27	27
R-14 Rotor mount	45.33	41
R-18 Rotor mount	60.58	55
SEE LITERATURE FOR CONFIGURATION OF TOWERS		
11 Top 11" top tower section	T 113.66	102
14 Top 14" top tower section	T 143.22	129
18 Top 18" top tower section	T 259.72	234
14 Taper 14" taper tower section	T 126.00	113
18 Taper 18" taper tower section	T 226.00	203
22 Taper 22" taper tower section	T 337.00	303
26 Taper 26" taper tower section	T 453.00	408
11 Straight 11" straight tower section	T 112.00	101
14 Straight 14" straight tower section	T 126.00	113
18 Straight 18" straight tower section	T 226.00	203
22 Straight 22" straight tower section	T 337.00	303
26 Straight 26" straight tower section	T 453.00	408
HD35-40 35 sq ft wind load 40' alum tower T	1616.00	1454
HD21-50 21 sq ft wind load 50' alum tower T	1724.00	1552
HD9-60 9 sq ft wind load 60' alum tower ....T	1808.00	1627
HD16-60 16 sq ft wind load 60' alum tower T	2178.00	1960
HD21-60 21 sq ft wind load 60' alum tower T	2295.00	2065
HD8-70 8 sq ft wind load 70' alum tower ....T	2034.00	1831
HD12-70 12 sq ft wind load 70' alum tower T	2519.00	2267
HD17-70 17 sq ft wind load 70' alum tower T	2749.00	2474
HD21-70 21 sq ft wind load 70' alum tower T	2864.00	2578
HD8-80 8 sq ft wind load 80' alum tower ....T	2603.00	2343
HD9-80 9 sq ft wind load 80' alum tower ....T	2716.00	2444
HD11-80 11 sq ft wind load 80' alum tower T	3085.00	2777
HD12-80 12 sq ft wind load 80' alum tower T	3090.00	2781
HD16-80 16 sq ft wind load 80' alum tower T	3317.00	2985
HD4-90 4 sq ft wind load 90' alum tower ....T	2710.00	2439
HD8-90 8 sq ft wind load 90' alum tower ....T	3198.00	2878
HD11-90 11 sq ft wind load 90' alum tower T	3656.00	3290
HD4-100 4 sq ft wind load 100' alum tower T	3630.00	3267
HD8-100 8 sq ft wind load 100' alum tower T	3884.00	3496
B-30 Base for HD tower	212.57	191
RFM-30 Flat roof mt for guyed tower	186.52	168
1-5/8SC Flange bearing	90.70	81
2-3/16SC Flange bearing	116.52	104
Top Plate Flange plate welded to top section	21.24	19

UNIVERSAL - continued

Reg Sale

SEE LITERATURE FOR CONFIGURATION OF TOWERS

30 Taper 30" taper tower section	T	570.00	513
30 Straight 30" straight tower section	T	570.00	513
1-1/4" OD x 10 ft aluminum mast	T	30.27	27
1-1/2" OD x 10 ft aluminum mast	T	37.84	34
2" OD x 8 ft aluminum mast		45.41	41
2" OD x 16 ft aluminum mast	T	90.88	82

All UNIVERSAL TOWERS products are drop-shipped (shipped direct to you from the UNIVERSAL TOWERS factory). On these factory drop-shippments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB Mt. Clemens, Michigan via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these special order products. Most truck lines will not unload the tower for you, so please be sure to have enough manpower and/or equipment on hand when your tower is delivered by the carrier.

VALOR (See PRO AM)

VANCO (VCO)

SWR-1 SWR/field strength meter	\$ 36.14	1995
SWR-2 SWR/power/field strength meter	50.15	2995
SWR-3 Mini SWR meter	21.68	1495

VAN GORDEN (VAN)

Hi-Q 1:1 balun	\$ 14.95	
Hi-Q 4:1 balun	14.95	
Antenna center insulator	6.95	
Antenna end insulator	each 3.95	
Dog bone type antenna insulator	each .50	
NR-100 Nylon antenna guy rope	100 ft. 4.49	
NR-1,000 Nylon ant guy rope	1,000 ft. 43.95	
D-80 80m wire dipole antenna	31.95	
SD-80 Short 80m dipole	35.95	
D-40 40m wire dipole antenna	28.95	
SD-40 Short 40m dipole	33.95	
D-20 20m wire dipole antenna	27.95	
D-15 15m wire dipole antenna	26.95	
D-10 10m wire dipole antenna	25.95	

All Bander Dipole 160-10m (w/tuner) 135' ant	29.95	
Shorty All Bander 160-10m (w/tuner) 70' ant	39.95	
G5RV Flat-top 5-band 102' antenna w/cable	50.00	
N connector Type N connector for 9913	4.95	

450 ohm insulated ladderline	100 ft. 12.00	
450 ohm insulated ladderline	1,000 ft. 110.00	

VIBROPLEX (VIB)

100 Original Presentation Super deluxe bug	\$195.00	
105 Original Deluxe Bug	120.00	
110 Original Standard Bug	99.00	
115 VibroKeyer Deluxe Paddle	115.00	
120 VibroKeyer Standard Paddle	89.00	
125 Iambic Presentation Paddle	160.00	
130 Iambic Deluxe Paddle	115.00	
135 Iambic Standard Paddle	95.00	
140 EK-1 Iambic keyer w/paddle	145.00	
145 Brass Racer Iambic paddle	65.00	

VOCOM (VOC)

2m 5/8 wave telescopic whip ant w/BNC	\$ 19.95	
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W2AU (Unadilla) (W2A)

W2AU 1:1 80-10m balun, lightning arrestor ..	\$ 21.00	
W2AU Beam Balun, 1:1	21.00	
W2AU 4:1 80-10m balun, lightning arrestor ..	21.00	
W2DU-HF 1:1 1.8-30 MHz choke balun	23.00	
W2DU Beam Balun 40-10m 1:1 choke balun	23.00	
W2DU-VHF 1:1 30-250 MHz choke balun	23.00	

HA AN-sulator center insulator	8.00	
HE END-sulator end insulators	pair 4.00	

KW-80CW Reyco 80m CW ant traps	pair 44.00	
KW-80F Reyco 75m phone ant traps	pair 44.00	
KW-40 Reyco 40m antenna traps	pair 40.00	
KW-30 Reyco 30m antenna traps	pair 40.00	
KW-20 Reyco 20m antenna traps	pair 39.00	
KW-17 Reyco 17m antenna traps	pair 39.00	
KW-15 Reyco 15m antenna traps	pair 39.00	
KW-12 Reyco 12m antenna traps	pair 39.00	

W2AU - continued

Reg Sale

KW-10 Reyco 10m antenna traps	pair 39.00	
W2AU/W2VS 5-band ant kit (use tuner)	75.00	

W5YI Books (W5Y)

HOS Ham Operator IBM Software	\$ 29.95	
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WABER AC OUTLET STRIPS (WAB)

3SP 3 outlet/breaker/switch/light	Δm \$ 16.60	1295
4S 4 outlet/breaker/switch	Δm 16.60	1295
5 5 outlet w/breaker	Δm 16.60	1295
6SP 6 outlet/breaker/switch/light	Δm 19.95	1495
7S 7 outlet/breaker/switch	Δm 19.95	1495
8 8 outlet w/breaker	Δm 19.95	1495

WAHL (WAH)

7540 Cordless soldering iron kit	Dmwf \$ 34.95	2995
7740 Quick charge cordless soldering iron kit ..	39.95	3495
7980 Butane soldering iron and torch	29.95	
7985 Butane iron/torch kit package w/case ..	54.95	4995

WELLER (WEL)

7200PK 75w soldering gun kit	\$ 32.80	2695
EC-1002-1 40w temp controlled solder stn ...	281.06	18995
WP-25P 25w pencil-type soldering iron ..Dm	28.72	2495
WP-25 25w professional soldering iron	37.06	
W-60P 60w temp controlled soldering iron	71.16	5995
W-100PG Hvy duty 100w temp controlled iron ..	69.86	4995
WTCPT 60w temp controlled soldering stn	167.12	10995
WSTA3 Pyropen portable LP soldering iron	110.06	7495
WST2 Pyropen Jr. portable butane iron	88.36	6495

YAESU (YAE)

FT-1000 Xcvr w/ps/tuner/keyer/mic/XF-AB ...	3889.00	CALL
BPF-1 Dual bandpass filter; crossband rcv ..	177.00	16495
TCXO-1 Temperature compensated xtal osc ..	229.00	20995
XF-C 2.4 KHz SSB xtal filter (455 KHz)	149.00	13995
XF-D 2 KHz SSB xtal filter (455 KHz)	149.00	13995
XF-E 500 Hz CW xtal filter (455 KHz)	149.00	13995
FT-1000D Dlx Xcvr w/BPF/TCXO/XF-ABCDE ...	4919.00	CALL

Special Bonus - Limited Edition Embroidered Jacket
(\$169 value) direct from Yaesu with FT-1000/FT-1000D
& \$100 coupon - FT-1000/FT-1000D thru 1/10/94

DVS-2 Digital voice recording module	304.00	27495
FIF-232C Interface for RS-232	109.00	
MD-1C8 Desk microphone	133.00	
SP-5 External spkr w/audio filter	160.00	14995
LL-5 Phone patch unit for SP-5	139.00	12995
XF-455MC 600Hz CW filter (455KHz); subrcvr	159.00	14995
XF-F 250 Hz CW xtal filter (455 KHz)	159.00	14995
YH-77ST Open-air type stereo headphones ..	52.00	

FT-990DC Xcvr w/tuner & mic	2179.00	CALL
FP-25 Internal power supply for FT-990DC ..	349.00	31995
FP-800 20A heavy duty ps for FT-990DC	309.00	27995
XF-109C 500 Hz CW filter for FT-990DC	127.00	11995
FT-990 Xcvr w/ps/tuner/mic/CW filter	2579.00	CALL

\$50 coupon - FT-990/FT-990DC thru 1/10/94

DVS-2 Digital voice recording module	304.00	27495
FIF-232C Interface for RS-232	109.00	
MD-1C8 Desk microphone	133.00	
SP-6 External speaker w/filter	160.00	14995
LL-5 Phone patch unit for SP-6	139.00	12995
TCXO-2 Temp compensated xtal oscillator ..	199.00	18995
XF-10.9M-202-01 2nd IF 2 KHz SSB filter ..	129.00	11995
XF-455K-251-01 2nd IF 250 Hz CW filter ..	159.00	14995
YH-77ST Open-air type stereo headphones ..	52.00	

FT-767GX Xcvr/1-29.99 Rcvr/ps/tuner Dmwf	2299.00	1699
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\$35 coupon - FT-767GX thru 1/10/94

2M/767 (FEX-767-2M) 2m module	269.00	24995
6M/767 (FEX-767-6M) 6m module	269.00	24995
430/767 (FEX-767-70B) 430-440 module ..	349.00	31995
440/767 (FEX-767-70A) 440-450 module ..	349.00	31995
FIF-232C Interface for RS-232	109.00	
FTS-8 Encoder/decoder	58.00	
MD-1C8 Desk microphone	133.00	
MH-1B8 Extra hand microphone	33.00	
SP-767 Speaker w/audio filters	99.00	
SP-767P Speaker/patch	136.00	12995
FT-890 Xcvr/1-30 MHz Rcvr w/mic	1439.00	CALL
ATU-2 Internal antenna tuner	270.00	24995
FT-890/AT Xcvr/1-30 MHz Rcvr/tuner/mic ...	1649.00	CALL

\$35 coupon - FT-890/FT-890/AT thru 1/10/94

YAESU - continued

Reg Sale

FP-800 20A heavy duty power supply	309.00	27995
DVS-2 Digital voice recording module	304.00	27495
FC-800 External long wire auto tuner	499.00	42995
FIF-232C Interface for RS-232	109.00	
FRB-757 External relay box	29.00	
MD-1C8 Desk microphone	133.00	
MH-1B8 Extra hand microphone	33.00	
MMB-20 Mobile mount	29.00	
SP-6 External speaker w/filter	160.00	14995
LL-5 Phone patch unit for SP-6	139.00	12995
SP-7 Mobile speaker	37.00	
TCXO-3 TCXO unit	102.00	
XF-455K-251-01 2nd IF 250 Hz CW filter ...	159.00	14995
YF-100 2nd IF 500 Hz CW filter	124.00	11995
YF-101 2nd IF 2.6 KHz SSB filter	159.00	14995
YH-77ST Open-air type stereo headphones ..	52.00	
FT-840 Xcvr/SW Rcvr	999.00	CALL

\$35 coupon - FT-840 thru 1/10/94

FP-800 20A heavy duty power supply	309.00	27995
FC-10 External coax fed auto tuner	379.00	34995
FC-800 External long wire auto tuner	499.00	42995
FIF-232C Interface for RS-232	109.00	
FM-747 FM unit	70.00	
MD-1C8 Desk microphone	133.00	
SP-6 External speaker w/filter	160.00	14995
SP-7 Mobile speaker	37.00	
TCXO-4 TCXO unit	102.00	
YF-112A 6 KHz AM filter	124.00	
YF-112C 500 Hz CW filter	124.00	
YH-77ST Open-air type stereo headphones ..	52.00	
FT-747GX Xcvr/SW Rcvr/CW filter/mic	909.00	CALL

\$35 coupon - FT-747GX thru 1/10/94

FP-757HD Heavy duty supply/fan/spkr	334.00	30495
FP-700 Power supply	265.00	23995
FAS-1-4R Remote antenna selector	129.00	11995
FC-757AT Auto antenna tuner w/memory ...	530.00	47995
E-767 Cable for FC-757AT w/FT-747GX ...	24.00	
FM-747 FM unit	70.00	
MD-1C8 Desk microphone	133.00	
MH-1B8 Extra hand microphone	33.00	
MMB-38 Mobile mounting bracket	20.00	
RMK-747 Remote kit	204.00	18995
SP-767 Speaker w/audio filters	99.00	
TCXO-747 Increased freq stability unit	42.00	

FL-7000 Solid state amp w/auto ant tuner ...	2459.00	CALL
CT-11 Cable - FL-7000 to FT-890	19.00	
E-767 Cable - FL-7000 w/FT-767/990/1000	24.00	
FAS-1-4R Remote antenna selector	129.00	11995
DC-8800 DC kit for FRG-8800	Dmwf 4.00	295
FF-5 500 KHz low-pass filt (for VLF); Rcvr Dm	40.00	995
FM-W/8800 FM-wide kit; FRG-8800	Dmfv 21.00	1695
FRA-7700 Indoor active receive ant ....Dmfv	58.00	4995
FRT-7700 Antenna tuner for Rcvr	Dmwf 84.00	7995
FRG-100B 1-30 MHz shortwave receiver	669.00	CALL

FM Unit-100 FM unit	47.00	
TCXO-4 TCXO unit	102.00	
XF-E 500 Hz CW xtal filter	149.00	13995
XF-F 250 Hz CW xtal filter	159.00	14995
YA-30 1.8-30 MHz broadband dipole ant	248.00	22995
YH-55 Lo-Z headphones	33.00	
YH-77 Lightweight headphones	30.00	
YS-60 1.8-60 MHz 2kw PEP wattmeter	133.00	12495
YS-500 140-520 MHz 200w PEP wattmeter ...	106.00	

FT-650 100w 12/10/6m Xcvr w/ps	1859.00	CALL
DVS-2 Digital voice recording module	304.00	27495
MD-1C8 Desk microphone	133.00	
SP-5 External spkr w/audio filter	160.00	14995
LL-5 Phone patch unit for SP-5	139.00	12995
XF-455M6 600 Hz CW filter	159.00	14995
FT-736R 25w 2m/430 full dplx Xcvr/ps/mic ...	2149.00	CALL

\$35 coupon - FT-736R thru 1/10/94

AD-3 100w 2m/440 duplexer	52.00	
E-736 DC cable	13.00	
FEX-736-50 6m module	329.00	29995
FEX-736-220 220 MHz module	349.00	31995
FEX-736-1.2 1.2 GHz module	599.00	53995
FIF-232C Interface for RS-232	109.00	
FTS-8 Encoder/decoder	58.00	
FVS-1A Voice synthesizer	37.00	

YAESU - continued		Reg	Sale	YAESU - continued		Reg	Sale	YAESU - continued		Reg	Sale
Keyer-B	Electronic keyer unit	19.00		FT-26/25	2w 2m FM HT/batt/cgr	309.00	CALL	FBA-17	AA battery holder	22.00	
MD-1C8	Desk microphone	133.00		FT-26/27	5w 2m FM HT/batt/cgr	341.00	CALL	FNB-12S	600ma 12v (5w) battery	71.00	
MH-188	Extra hand microphone	33.00		FT-76/25	2w 440 FM HT/batt/cgr	329.00	CALL	FNB-14	1000ma 7.2v battery	71.00	
SP-767	Speaker w/audio filters	99.00		FT-415	2w 2m FM HT/batt/cgr/TTP	409.00	309 ⁹⁵	FNB-17	600ma 7.2v battery	52.00	
TV-736	1.2 GHz ATV converter	163.00	149 ⁹⁵	FT-416	2w black 2m FM HT/batt/cgr/TTP	415.00	CALL	FTS-12	Encoder/decoder for FT-23R/33R/73R	58.00	
FT-690R Mk II	10w 6m FM/SSB Xcvr/TTP	839.00	CALL	\$15 coupon - FT-416 thru 1/10/94				FTS-17	Tone squelch/pager unit; 411E	53.00	19 ⁹⁵
FT-290R Mk II	25w 2m FM/SSB Xcvr/TTP	699.00	CALL	FT-530	2m/440 FM HT/batt/cgr/TTP	569.00	CALL	FTS-17A	Tone squelch/pager; FT-411E	60.00	
FT-790R Mk II	25w 430-450 FM/SSB/TTP	819.00	CALL	\$25 coupon - FT-530 thru 1/10/94				FTT-4	DTMF (TTP) unit for FT-23R	51.00	
CSC-19	Soft case	21.00		FT-815	2w 440 FM HT/batt/cgr/TTP	449.00	329 ⁹⁵	MH-12A2B	Speaker/microphone	47.00	
FBA-8	Holder for 9 C-cell nicads	42.00		FT-816	2w black 440 FM HT/batt/cgr/TTP	469.00	CALL	MH-18A2B	Compact lapel speaker/mic	39.00	
NC-26B	Wall charger for FBA-8	13.00		\$15 coupon - FT-816 thru 1/10/94				MH-19A2B	Earpiece/microphone	43.00	
FTS-7A	Encoder/decoder; current units	41.00		CLIP-3	Belt clip	7.00		MMB-32A	Mobile hanger; not for FT-470	14.00	
MH-10E8	Hand microphone	24.00	19 ⁹⁵	CSC-50	Vinyl case; 415/416 w/FNB-25	21.00		MMB-46	Mobile hanger for FT-470	15.00	
FT-5100	50/35w 2m/440 FM Xcvr/TTP mic	749.00	CALL	CSC-52	Vinyl case; 415/416 w/FNB-26/27	21.00		NC-18B	Wall charger for FNB-12S	14.00	
\$25 coupon - FT-5100 thru 1/10/94				CSC-53	Vinyl case; 26/76 w/FNB-25	21.00		NC-28B	Extra wall charger for FNB-9/10/17	14.00	
FT-5200	50/35w 2m/440 FM Xcvr/TTP mic	789.00	CALL	CSC-55	Vinyl case; 26/76 w/FNB-26/27	21.00		NC-29	Desk quick cgr; FNB-12S/14/17	74.00	
\$25 coupon - FT-5200 thru 1/10/94				CSC-56	Vinyl case; 530 w/FNB-25	21.00		NC-34B	Wall charger for FNB-14	14.00	
FT-6200	35/10w 440/1.2GHz FM Xcvr/TTP	879.00	CALL	CSC-58	Vinyl case; 530 w/FNB-26/27	21.00		NC-37	1-hour desk cgr; FNB-12S/14/17	117.00	
\$25 coupon - FT-6200 thru 1/10/94				EDC-5B	DC adapter w/noise filter	23.00		PA-6	Mobile DC adapter/cgr; FNB-9/10/14/17	27.00	
DVS-3	Digital voice memory unit	144.00	134 ⁹⁵	EDC-6	DC adapter; plug & wire only	6.00		PA-7	Battery extension cable	33.00	9 ⁹⁵
FRC-4	DTMF pager unit	42.00		FBA-12	AA cell holder	21.00		YH-2	Lightweight VOX headset w/mic	33.00	
FTS-22	CTCSS decode unit	58.00		FNB-25	600ma 7.2v nicad battery	51.00		Accessories for FT-208R/708R			
MH-27B8	Extra TTP microphone	57.00		FNB-26	1000ma 7.2v nicad battery	79.00		FNB-2A	Nicad battery pack	\$ 51.00	
MW-1	Wireless remote control microphone	116.00	112 ⁹⁵	FNB-27	600ma 12v nicad battery (5w)	79.00		YM-24A	Speaker/microphone	39.95	
MMB-53	Mobile mtg bkt for MW-1	7.00		FTS-17A	CTCSS encode/decode unit	60.00		ANTENNA ROTORS			
SP-7	External speaker	37.00		MH-12A2B	Speaker/microphone	47.00		G-250	Light duty 4 sq ft rotor/8-wire	\$129.00	CALL
YSK-1L	Sep kit w/18' cable; FT-5200/6200	59.00		MH-18A2B	Compact lapel speaker/mic	39.00		G-400RC	Light/med duty 11 sq ft/5-wire	279.00	CALL
FT-212RH/C8	45w 2m FM Xcvr/TTP mic	419.00	339 ⁹⁵	MH-19A2B	Earpiece/microphone	43.00		G-500A	12 sq ft elevation rotor/8-wire	299.00	CALL
FT-712RH/C8	35w 440 FM Xcvr/TTP mic	497.00	399 ⁹⁵	MH-29A2B	LCD display spkr/mic; 530	105.00		G-800S	Med/hvy duty 450 degree 21sq ft/5-wire	359.00	CALL
FT-912RH	10w 1.2 GHz FM Xcvr w/TTP mic	709.00	CALL	MMB-49	Mobile mounting bracket	16.00		G-800SDX	Med/hvy duty 21sq ft/presets/5-wire	439.00	CALL
AD-3	100w 2m/440 duplexer	52.00		MMB-54	Mobile mounting bracket; 530	24.00		\$25 coupon - G-800SDX thru 1/10/94			
DVS-1	Digital voice memory module	109.00	104 ⁹⁵	NC-18B	Wall charger for FNB-27	14.00		G-1000SDX	HD 450 degree 23sq ft/presets/5-wire	539.00	CALL
FTS-12	Decoder; 212RH/712RH/912RH	58.00		NC-28B	Wall charger for FNB-25/26	14.00		\$25 coupon - G-1000SDX thru 1/10/94			
MH-15C8	Extra TTP microphone	54.00		NC-42	1 hour desk quick charger	104.00		G-2700SDX	HD 450 degree 34sq ft/presets/8-wire	1049.00	CALL
MH-15D8	Autodial TTP microphone	80.00		YH-2	Lightweight VOX headset w/mic	33.00		\$25 coupon - G-2700SDX thru 1/10/94			
FT-2400H	50w 2m FM Xcvr w/TTP mic	439.00	CALL	FT-23R-17	2.5w 2m FM HT/FNB-17/cgr	299.00	CALL	G-5400B	Light/med 11sq ft az/el//2x8-wire	559.00	CALL
\$15 coupon - FT-2400H thru 1/10/94				FT-23R-12	5w 2m FM HT/FNB-12S/cgr	328.00	CALL	Sep Kit	Separation kit for G-5400B	29.00	
FT-7400H	35w 440 FM Xcvr w/TTP mic	569.00	CALL	FT-33R	5w 220 FM HT/batt/cgr	349.00	CALL	GC-038	Mast clamp; 400/800/1000/5400B	27.00	
2400 Mic Cable	2' packet cable	9.00		FT-411E	2.5w 2m FM HT/batt/cgr/TTP	369.00	CALL	GC-048	Mast clamp; G-2700SDX	42.00	
FRC-6	DTMF pager unit	42.00		\$15 coupon - FT-411E thru 1/10/94				GS-050	50mm thrust bearing; mast 1 1/4-2"	33.00	
FTS-17A	CTCSS decode unit	60.00		FT-811	2w 440 FM HT/batt/cgr/TTP	394.00	289 ⁹⁵	GS-065	65mm thrust bearing; mast 1 1/4-2 1/2"	48.00	
SP-7	External speaker	37.00		FT-470	2.3w 2m/440 FM HT/batt/cgr/TTP	499.00	CALL	GS-23	Interface; G-800/1000/2700SDX	345.00	299 ⁹⁵
FT-2200	50w 2m FM Xcvr w/TTP mic	459.00	CALL	\$25 coupon - FT-470 thru 1/10/94				GS-232	Interface for G-5400B	547.00	469 ⁹⁵
\$15 coupon - FT-2200 thru 1/10/94				FT-911	1w 1.2 GHz FM HT/batt/cgr/TTP	529.00	CALL	See BELDEN for rotor cable			
FT-7200	35w 440 FM Xcvr w/TTP mic	TBA		Accs for FT-23R/33R/73R/411E/811/470/911				ZENITH (ZEN)			
DVS-3	Digital voice memory unit	144.00	134 ⁹⁵	CLIP-1	Belt clip	\$ 7.00		A-8477	75 ohm high-pass filter	D*	9 ⁹⁵
FTS-27	CTCSS decode unit	53.00		CSC-22	Soft case; 23R w/FNB-9/FBA-9	16.00	2 ⁹⁵	On major products ask your salesperson about...			
MW-2	Wireless remote control microphone	138.00	129 ⁹⁵	CSC-24	Soft case; 23R w/FNB-11	19.00	9 ⁹⁵				
SP-7	External speaker	37.00		CSC-26	Soft case; 23R/TTP w/FNB-11	16.00	1 ⁹⁵				
SP-3	Small mobile speaker	21.00		CSC-28	Soft case; FT-23R w/FNB-12S	21.00					
SP-4	Mobile speaker	30.00		CSC-35	Soft case; FT-411E w/FNB-17	21.00					
Accessories for 09-series/03-series				CSC-37	Soft case; FT-411E w/FNB-12S/14	21.00					
FNB-4A	500ma 12v battery	\$ 65.00		CSC-43	Soft case; FT-470 w/FNB-9/17	21.00		<ul style="list-style-type: none"> • Late Breaking "Hot Deals" • Latest Sale Prices • Monthly specials • Coupons, etc. 			
FTS-6	Encoder/decoder; 09-series	56.00		CSC-45	Soft case; FT-470 w/FNB-12S/14	21.00					
MMB-21	Mobile bracket	16.00		CSC-48	Soft case; 23R w/FNB-17	21.00					
NC-9B	Wall charger for FNB-3/3A	14.00		FBA-9	AAA battery holder	12.00	9 ⁹⁵				
PA-3	Mobile adapter and charger	28.00									

Order Toll Free: 1-800-558-0411 FAX: (414) 358-3337

AMATEUR ELECTRONIC SUPPLY Inc.

5710 W. Good Hope Road; Milwaukee, WI 53223 • Phone (414) 358-0333

AES® Store Locations

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Milwaukee, WI 53223; 5710 W. Good Hope Road	(414) 358-0333	1-800-558-0411	(414) 358-3337
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Orlando, FL 32803; 621 Commonwealth Avenue	(407) 894-3238	1-800-327-1917	(407) 894-7553
Clearwater, FL 34625; 1898 Drew Street	.....	(813) 461-4267		(813) 443-7893
Las Vegas, NV 89106; 1072 N. Rancho Drive	.....	(702) 647-3114	1-800-634-6227	(702) 647-3412

PHONES

COBRA (COB) Reg Sale

46/49 MHz CORDLESS PHONES		
CP-478 Ivory/spkrphone/redial	Dm	\$139.95 69 ⁹⁵
CP-484 Ivory/room monitor/intercom	Dm	199.95 89 ⁹⁵
CP-485 Ivory/monitor/built in antenna	Dm	209.95 99 ⁹⁵
CP-486 Intenna/redial/tone/pulse	Dw	109.95 59 ⁹⁵
CP-701 9# mem/page/redial/intenna	Dmwf	99.95 69 ⁹⁵
CP-703 Cellular style/page/backlit	Dmwf	119.95 69 ⁹⁵
CP-492 2-line/hold/page/volume control		169.95 109 ⁹⁵
CP-711 Cellular style/selectable channels		129.95 89 ⁹⁵
CP-910 900MHz 100ch dig spread spectrum		399.95 299 ⁹⁵

TELEPHONE ANSWERING MACHINES

AN-8526 Ans machine w/cordless phone Dmf	\$229.95	129 ⁹⁵
AN-8534 Ans mach/rem/VOX/9# mem ph	Dm	99.95 49 ⁹⁵
AN-8560 Ans machine w/personal memo ...Df		69.95 39 ⁹⁵
AN-8563 Ans machine w/microchip	Dmwf	89.95 49 ⁹⁵
AN-8566 Ans machine w/9# mem ph	Dmwf	129.95 69 ⁹⁵

SCANNERS & MONITORS

Antenna Specialists (ASP)

MONR1 H or U low profile roof mt monitor ant .	\$ 23.50	
MON-9 H & U magnet mt monitor antenna	35.25	
MONR31 L/H/U gain ground plane base ant ..	55.25	

BMI (BMI)

Nitelogger Automatic recorder activator	\$ 69.95	
RC-1A Impedance matching patch cord	19.95	

CHANNEL MASTER (CHA)

5094A 4-band base Monitenna ant w/50' coax .	\$ 44.99	39 ⁹⁵
5095A Kit w/5094A ant, 5' tri-mast, 50' coax	55.99	49 ⁹⁵

COBRA (COB)

SR-900 16 ch programmable scanner	\$179.95	99 ⁹⁵
SR-11 10 ch prog pocket scanner	219.95	129 ⁹⁵
SD-1E Eastern U.S. frequency book	Δmwf	14.95 9 ⁹⁵

GROTHE (GRO)

VS-2 Emergency vehicle siren	\$ 99.00	89 ⁹⁵
VS-3 Volunteer vehicle PA/horn w/spkr	159.00	129 ⁹⁵
VS-4 P/A emergency vehicle siren w/spkr	169.00	139 ⁹⁵

JABRO (JAB)

JB-1000 Battery for Regency HX-1000/1200 .	\$ 24.95	
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MAXON (MAX)

WX-3 Weather receiver w/alert & ps	\$ 59.95	39 ⁹⁵
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Monitor America (MON)

Monitor America Scanner frequency book	\$ 24.95	
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OFFICIAL (OFF)

Aeronautical Frequency Directory	\$ 24.95	
Maritime Frequency Directory	24.95	

UNIDEN BEARCAT (UNI)

BC-210XLT 40 ch prog scanner/air/WX	Dmwf	\$244.95 129 ⁹⁵
BC-560XLT 16 ch mobile prog scanner ....Dfv		179.95 99 ⁹⁵
BC-590XLT 100ch prog/svc srch/ps	Dmwf	399.95 179 ⁹⁵
BC-001 RF preamp for BC-590XLT	Δmf	13.40 9 ⁹⁵
BC-800XLT 40 ch prog scanner/800 MHz	D*	419.95 219 ⁹⁵
BC-147XLT 16 ch prog scanner/instant WX ...		169.95 99 ⁹⁵
BC-148XLT 16 ch prog scanner/WX alert		179.95 109 ⁹⁵
BC-350A 50 ch prog/service search w/AC ps .		199.95 129 ⁹⁵
BC-560XLA 16 ch prog scanner w/AC ps		169.95 119 ⁹⁵
BC-2 Pre-prog warning scanner/AC ps		269.50 169 ⁹⁵
BC-700A 50 ch prog/svc search/800/AC ps ...		299.95 189 ⁹⁵
BC-760XLT 100 ch prog/svc search/800/AC ps		469.95 239 ⁹⁵
BC-002 CTCSS tone board; BC-760XLT		62.99
BC-003 Switch box for BC-002		10.70
BC-004 RF preamp for BC-760XLT		27.80
BC-855XLT 50 ch prog scanner w/800 MHz ...		319.95 189 ⁹⁵
BC-890XLT 200 ch 956 MHz scanner/WX alert		489.95 289 ⁹⁵
BC-002 CTCSS tone board; BC-890XLT		62.99
BC-8500XLT 500 ch 25MHz-1.3GHz/WX alert		669.95 419 ⁹⁵
BC-55XLT 10 ch prog pocket scanner		179.95 119 ⁹⁵
AD-100 AC adapter/batt cgr; BC-50/55		17.70
PS-001 DC power cord; BC-50/55XLT		5.95
VC-001 Carrying case; BC-50/55XLT		9.00
BC-65XLT 10 ch prog pocket scanner		189.95 119 ⁹⁵

UNIDEN - continued

BC-70XLT 20 ch prog pocket w/battery		249.95 159 ⁹⁵
AD-70 Extra charger for BC-70XLT		16.35
BP-70 Extra battery for BC-70XLT		27.80
UA-502 Cig power cord for BC-70XLT		11.25
BC-100XLT 100 ch prog pocket w/aircraft		299.95 169 ⁹⁵
BC-200XLT 200 ch prog pocket w/800 MHz ...		419.95 249 ⁹⁵
AD-140 Extra charger; BC-100XLT/200XLT .		18.24
BP-200 Extra battery; BC-200XLT		32.82
BP-205 Extra battery; BC-100XLT		37.23
PS-001 DC power cord; BC-100XLT/200XLT		5.95
Diamond RH-77CA 15" rubber gain ant		32.95 29 ⁹⁵
BC-2500XLT 400 ch pocket 25MHz-1.3GHz ...		669.95 399 ⁹⁵
BP-2500 Extra battery; BC-2500XLT		35.75
FB-E Eastern U.S. frequency book	Dmv	14.95
FB-W Western U.S. frequency book	Dv	14.95
NPD-001 National frequency book		14.95
RFD-001 IN/IL/KY/OH/MI/WI freq book		14.95

RADAR DETECTORS

BEL (BLT)

936W 3-band wideband Ka detector	Dw	\$249.95 139 ⁹⁵
956W 3-band wideband Ka detector	Dm	299.95 139 ⁹⁵
966STW 3-band wideband Ka detector	Dmw	459.95 229 ⁹⁵
966W 3-band wideband Ka detector	Dm	379.95 179 ⁹⁵
LA-132 Laser detector		129.95 89 ⁹⁵

COBRA (COB)

RD-2110 Super heterodyne detector	Dm	\$ 84.95 49 ⁹⁵
RD-3170 Deluxe superhet detector	Dm	299.95 119 ⁹⁵
RD-4120 Super heterodyne detector	Dmw	209.95 79 ⁹⁵
RD-6000 Solar powered radar detector ....Dm		319.95 139 ⁹⁵
LD-200 Laser detector		79.95 69 ⁹⁵
RD-300 3-band narrow band detector		95.95 79 ⁹⁵
RD-302 3-band wide band detector		129.95 99 ⁹⁵
RD-304 3-band wide band detector		179.95 119 ⁹⁵
RD-306 3-band wide band detector		189.95 129 ⁹⁵
RDL-412 Radar/laser detector		239.95 159 ⁹⁵
RDL-512 Radar/laser detector		259.95 179 ⁹⁵

LAND MOBILE

COURIER (COU)

Procom* 2w VHF FM hand-held/batt/cgr		\$199.95 139 ⁹⁵
ANT-2 Extra BNC flexible antenna		12.00 9 ⁹⁵
AUC-12 Cig lighter charger adapter		12.00 9 ⁹⁵
CAT-12 Leather carrying case		22.50 19 ⁹⁵
CHB-7 Extra AC battery charger		6.50 5 ⁹⁵
RB-7 Extra nicad battery pack		32.00 29 ⁹⁵
RSM-1 Speaker/mic		37.50 32 ⁹⁵

*Available in one of three frequencies:

Frequency A (red) - 151.625 MHz (itinerant)	
Frequency B (blue) - 154.570 MHz	
Frequency C (green) - 154.600 MHz	

M-54 5w 4ch VHF FM hand-held/batt/cgr/151.625	299.95	199 ⁹⁵
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U-22* 2w 2ch UHF FM hand-held/batt/cgr		279.95 189 ⁹⁵
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*Available in one of five frequencies:

Frequency A (white) - 462.575 MHz	
Frequency B (black) - 462.625 MHz	
Frequency C (orange) - 462.675 MHz (REACT)	
Frequency D (brown) - 464.500 MHz (business radio svc)	
Frequency E (yellow) - 464.550 MHz (business radio svc)	

ICOM (ICO)

IC-H18 16 ch 5w 148-165 MHz prog HT ....Dm		\$819.00 399 ⁹⁵
IC-U2 2 ch 2.5w 450-490 MHz prog HT ....Dm		649.00 299 ⁹⁵
IC-U12 12 ch 2.5w 450-460 MHz diode HT .Dm		499.00 229 ⁹⁵
IC-U12/tone 12ch 2.5w 450-460 diode/tone Dm		583.00 269 ⁹⁵
IC-U18 16ch 5w UHF HT; 450-460 or 460-470 .Dm		849.00 399 ⁹⁵
BM-70 Desk charger; H-18/U-18	Δm	169.00 69 ⁹⁵
UT-14 Tone unit	Dm	115.00 49 ⁹⁵
IC-H16 16 ch 3w VHF keyboard HT		761.00 549 ⁹⁵
IC-U16 16 ch 2.5w UHF keyboard HT		782.00 569 ⁹⁵
IC-125 5 ch 25w VHF diode mobile	Dm	611.00 349 ⁹⁵
IC-V200 12 ch 25w 148-160 prog mobile Dm		700.00 299 ⁹⁵
IC-U200 2 ch 25w UHF prog mobile	Dm	700.00 299 ⁹⁵
IC-V100 16 ch 50w VHF keyboard mobile		893.00 649 ⁹⁵
IC-U400 16 ch 35w UHF keyboard mobile		906.00 649 ⁹⁵
UT-26 2-tone decoder; V-100/U-400	Δm	65.00 29 ⁹⁵

Programming extra on all Icom Land Mobile

ICOM - continued

A-2 5w PEP synthesized aircraft handheld	594.00	459 ⁹⁵
A-21 5w PEP Navicom Plus aircraft handheld ..	699.00	529 ⁹⁵

Call Paul at Milwaukee for Icom Land Mobile

MAXON (MAX)

MX-49HD 5 ch 49 MHz handheld Xcvr ...Dmfv	\$ 59.95	29 ⁹⁵
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MX-49FX 5 ch 49 MHz ear mic Xcvr	89.95	59 ⁹⁵
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MX-49HX 5 ch 49 MHz euro-design headset Xcvr	89.95	49 ⁹⁵
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MX-49SX* 49 MHz euro-design headset Xcvr	59.95	29 ⁹⁵
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*Available in channels A, B, & E; limited qty's in C & D

RANGER (RAN)

RCI-1000* 1w mini VHF FM hand-held/batt/cgr .	\$189.95	129 ⁹⁵
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BT-10 Extra nicad batteries	29.95	24 ⁹⁵
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DG-10 Desk charging stand (use wall cgr) .	14.95	
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LC-1000 Leather case	24.95	19 ⁹⁵
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MT-17 CTCSS encoder/decoder	54.95	49 ⁹⁵
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SRA-106A Speaker/mic	44.95	39 ⁹⁵
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*Available in one of three frequencies:

Frequency A (red) - 151.625 MHz (itinerant)	
Frequency B (blue) - 154.570 MHz	
Frequency C (green) - 154.600 MHz	

MARINE VHF FM RADIO

ICOM (ICO)

M-2 5w synthesized marine hand-held	\$659.00	369 ⁹⁵
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M-5 5w synth hand-held w/9 memories	725.00	399 ⁹⁵
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MA-11 6w synth splash resistant hand-held ...	690.00	389 ⁹⁵
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CA-1 Extra flexible antenna	20.00	
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CM-60A/BC-60A 6 pos gang cgr; std batts	593.00	399 ⁹⁵
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RB-1 Vinyl waterproof radio bag	39.00	
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M-56 25w synth mobile marine Xcvr	639.00	369 ⁹⁵
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M-800* 150w fiber optic scanning SSB marine Xcvr	3391.00	2468
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*Special order

GP-22 GPS unit	1000.00	699 ⁹⁵
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MOTOROLA (MOT)

H5057R 25w basic VHF marine Xcvr	\$379.00	229 ⁹⁵
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H5058R 25w dlx VHF marine Xcvr	549.00	329 ⁹⁵
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H5059R 25w VHF marine Xcvr w/scrambler*	869.00	499 ⁹⁵
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*Requires munitions license to export

HSN9690 Hailer speaker for H5058R/5059R ..	40.00	39 ⁹⁵
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H5111 5w VHF marine hand-held	639.00	399 ⁹⁵
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RANGER (RAN)

RCI-8500 25w 90 ch VHF marine Xcvr ..Dmwf	\$399.95	159 ⁹⁵
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RCI-6060 25w VHF marine Xcvr w/scan	329.95	179 ⁹⁵
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RCI-7000 5w 88 ch VHF marine hand-held ...	289.95	159 ⁹⁵
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RCI-9000 5w 90 ch VHF marine hand-held ...	349.95	199 ⁹⁵
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UNIDEN (UNI)

MC-790 25w 90 ch VHF marine XcvrDmwf	\$339.95	179 ⁹⁵
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HH-978XL 5w 90 ch VHF marine hand-held ...	254.95	149 ⁹⁵
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LARSEN (LAR)

PD-150-SBK 4' 3 db mast mounted ant	\$ 53.80	
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SHAKESPEARE (SHA)

399-1 6 db, 9' 6" 2-piece ant, less mount	\$177.95	84 ⁹⁵
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497 6 db, 8' antenna, less mount	79.95	39 ⁹⁵
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5202 6 db ant w/chrome ferrule, less mt	120.50	59 ⁹⁵
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5206-C Economy 8' ant w/chrome ferrule, no mt .	54.50	29 ⁹⁵
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366H Chrome zamac ratchet mount	58.50	29 ⁹⁵
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495 White plastic lift & lay mount	23.95	14 ⁹⁵
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420 3 db, 5' ant w/fold-down mount	87.50	44 ⁹⁵
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420-M-2 3 db, 5' mast mount antenna	107.50	54 ⁹⁵
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5204-8 Combo CB/VHF marine 8' antenna	174.95	84 ⁹⁵
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390 23' 2-piece SSB antenna, less mt	T 167.95	79 ⁹⁵
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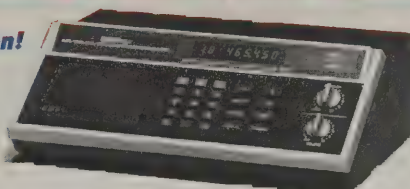
On major products ask your salesperson about...

uniden

BC-147XLT and 855XLT are similar in appearance.

Scan the Action!

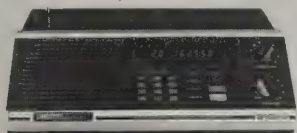
- Ham Radio
- Police, Fire
- Emergency
- Weather
- More...



UNIDEN BC-147XLT • 16 channel Base unit covering 10 bands, including weather. Covers 29-29.7, 29.7-50, 50-54, 136-144, 144-148, 148-174, 406-420, 420-450, 450-470 and 470-512MHz. Two-digit LED display shows the current channel and scan. Keyboard Entry; Direct Channel Access; Manual Step Tuning; Scan; Lockout; Priority; Review; Weather Search; Automatic Squelch; Track Tuning; Memory Back-up; Three Scan Speeds. 9" w x 2 3/4" h x 6 1/2" d, 1.2 lbs. **\$99⁹⁵**

UNIDEN BC-148XLT • 16 channel 10 band scanner with weather alert. Programmable, digital, AC/DC operation. Frequency coverage 29-54, 136-174 and 406-512MHz. Weather button, priority, Lockout button, squelch. AC adapter and telescoping antenna. 9" w x 2 3/4" h x 6 1/2" d, 1.2 lbs. **\$109⁹⁵**

UNIDEN BC-855XLT • 50 programmable channels, 5 banks and 12 bands — including 800MHz, all Public Service Bands, 4 Ham Bands, Federal and Military Land Mobile Bands, and AM. Large LCD displays frequencies programmed and being monitored and modes. Scan delay; Track tuning; Automatic Squelch; Lockout; Weather Search; Direct Channel Access; Priority; Programmable Search; Choice of Scan Speed; Memory Back-up. 9" w x 2 3/4" h x 6 1/2" d, 1.2 lbs. **\$189⁹⁵**



UNIDEN BC-210XLT • 40 programmable channels, 2 banks and 11 bands. 29-29.7, 29.7-50, 50-54, 118-136, 136-144, 144-148, 148-174, 406-420, 420-450, 450-470 and 470-512 MHz. Keyboard Entry; Weather Search; Priority; Channel Lockout; Scan Delay; Automatic Search; Vacuum Fluorescent Display; Automatic squelch. 117V AC or 13.8V DC with optional AC cord. 10 1/2" w x 3 1/2" h x 8" d. **CLOSEOUT \$129⁹⁵**



UNIDEN BC-560XLA • 16 channel, programmable Mobile unit. 10 bands: 29.0-29.7, 29.7-50, 50-54, 136-144, 144-148, 148-174, 406-420, 420-450, 450-470 and 470-512MHz. Features: Pushbutton Entry; Two-Digit LED Display; Review Key; Priority; Memory Back-up; Channel Lockout; Direct Channel Access; Weather Search; Built-in Delay; Track Tuning. Requires 13.8V DC, mobile mounting bracket included. 6 1/2" w x 1 1/2" h x 5 1/2" d, 1 1/4 lbs. **\$119⁹⁵**

UNIDEN BC-760XLT • 100 programmable channels, 5 scanning banks, 12 bands. Features and coverage same as BC-590XLT, plus 806-956MHz. Requires 13.8V DC or 117V with AC adapter. 6 1/2" w x 1 1/2" d x 7 3/4" d, 1 lb., 3 oz. **\$239⁹⁵**



UNIDEN BC-8500XLT (left) • 500 programmable channels. 20 scanning banks, 14 bands. VFO for rotary tuning along with continuous band coverage from 25 to 1.3GHz (excludes cellular). Scan rate up to 100 channels per second. Scan delay, NOAA weather, 10 priority channels. AC operation; DC with optional cable. 10 1/2" w x 8" d x 4" h, 4 1/2 lbs. **\$419⁹⁵**

UNIDEN BCT-2 Bear Tracker (right) • Preprogrammed with all frequencies for Highway Patrol, D.O.T., Local Police and Weather. Simply select the state which you are in and listen! Responds to signals emitted from special "Mobile Extender" transmitters used in most Highway Patrol vehicles. Audibly and visually alerts to the presence of patrol units within a 3 mile radius . . . even when they are not using radar! Includes mounting bracket and DC cord. 5" w x 7" d x 1 1/2" h, 1 lb. **\$169⁹⁵**

Order by Mail, Fax or Phone

Toll-Free (800)-558-0411 • Fax (414) 358-3337 (24 hours)

Call... 9-5:30 (CST) Weekdays — 9-3 Saturdays

UNIDEN BC-800XLT • 40 programmable channels, 12 bands: 29-30, 30-50, 50-54, 118-136, 136-144, 144-148, 148-174, 406-420, 420-450, 450-470, 470-512, 806-912 MHz. Keyboard Entry; Instant Weather; Priority; Track Tuning; Scan Delay; Automatic Search; Automatic Squelch; Direct Channel Access; Channel lockout. 117 VAC or 13.8 VDC with optional DC cord. 12 1/2" w x 4 1/2" h x 9 1/4" d, 7 1/2 lbs. **CLOSEOUT \$219⁹⁵**



UNIDEN BC-55XLT (left) • 10 channel, programmable handheld scanner, 10 bands. Covers 29-29.7, 29.7-50, 50-54, 136-144, 144-148, 148-174, 406-420, 420-450, 450-470 and 470-512MHz. Two-digit LCD Display; Review; Channel Lockout; Battery-Low Indicator; Memory Back-Up; Built-In Delay; Direct Channel Access; Track Tuning. AC/DC operation — uses optional alkaline or rechargeable nicad batteries or AC charger and adapter. 2 3/4" w x 6 3/4" h x 1 1/2" d, 10 1/2 oz. **\$119⁹⁵**

UNIDEN BC-65XLT • Looks and coverage similar to BC-55XLT, but has more features. Includes nicad rechargeable batteries and AC adapter/charger, weather search. **\$119⁹⁵**

UNIDEN BC-70XLT (center) • Pocket-sized 20 channel, programmable handheld scanner, 10 bands. Covers same as BC-55XLT. LCD Display; Priority; Lockout; Scan Delay; Auto. Search; Track Tuning. AC/DC with built-in NiCad pack or included charger/adapter. 2 3/4" w x 6 3/4" h x 1 1/2" d, 10 1/2 oz. **\$159⁹⁵**

UNIDEN BC-100XLT (right) • 100 channels, 10 scanning banks, 11 bands with coverage same as BC-55XLT, plus Aircraft and Weather bands. Illuminated LCD Display; Weather Search; 10 Priority Channels; Channel Lockout; Scan Delay; Automatic Search; Track Tuning; Direct Channel Access. Battery & charger included. 2 3/4" w x 7 1/2" h x 1 1/4" d, 1 1/4 lbs. **\$169⁹⁵**

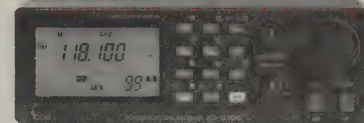
UNIDEN BC-200XLT • Looks, size and features same as BC-100XLT except — 200 channels, 20 scanning banks and 12 bands. Coverage is the same, plus 806-956MHz band **\$249⁹⁵**



COBRA SR-900 • 16 channel, programmable Desktop scanner with 11 bands. Covers 29-29.7, 29.7-50, 50-54, 136-144, 144-148, 148-174, 162.4-162.55, 406-420, 420-450, 450-470 and 470-512MHz. Keyboard Entry; LED Channel Display; Priority; Instant Weather Button; Lockout; Review; Scan; Automatic Scan Delay; Direct Channel Access; Memory back-up. AC adapter included. 9 1/2" w x 2 1/2" h x 7 1/2" d, 1 1/2 lbs. **\$99⁹⁵**

COBRA SR-11 (rt.) • 10 channel, programmable Handheld scanner with 3 bands, 10 memories. Covers 29-54, 136-174 & 400-512MHz. LCD 9-digit display for channel/frequency, status of lockout, squelch and key lock. Step Tuning; Up/Down Buttons; Scan; Key Lock; Auto. Squelch; Lockout; Fast/Slow Tuning. Uses "AA" batteries. 2 3/4" w x 6 3/4" h x 1 1/2" d, 7 1/2 oz. **\$129⁹⁵**

ICOM



ICOM R-100 Base or Mobile • Covers 100kHz to 1856MHz continuous; FM, wide FM and AM modes. Keyboard or Manual tuning, scanning. 121 memories: 100 for frequency/mode, attenuator and preamp settings; 20 scan edge for 10 pairs of ranges for programmed scan; 1 priority. 24-hour clock, 3 antenna inputs, telescoping antenna and mobile mount. Requires 13.8V DC @ 1A, optional AC adapter. 5 3/4" w x 2" h x 7 1/2" d, 3 lbs. **CALL**

ICOM R-1 Mini-handheld • Covers 100kHz-1300MHz; FM, wide FM and AM modes, 100 memory channels, various scan modes. Rotary tune or direct keyboard entry, LCD display, 24-hour clock/timer, adjustable LCD contrast, signal indicator, power-saver function. Built-in NiCad batteries; optional batteries or 6-16V DC. 1 1/2" w x 4" h x 1 1/2" d. **CALL**



BMI Nitellogger Automatic Recorder Activator • Accepts audio output from any 8Ω source and provides 600Ω audio and voice activated relay operation for triggering a recording device. Only three plug-in connections—one to the radio's ext. speaker jack, the other two go into the remote and microphone jacks of a cassette recorder. For ham purposes this device can make a simple crossband repeater by connecting two HT's. Built-in monitor speaker with volume control, VOX sensitivity and delay controls. AC adapter supplied. **\$69⁹⁵**



BMI RC-1A Impedance Matching Patch Cord • Provides impedance match between a nominal 8Ω source and a standard 600Ω recorder input. Uses capacitive isolation of the audio signal and provides proper loading for the source device while 20dB of attenuation prevents input overload. Input and output connectors: 3.5mm mini-plugs. **\$19⁹⁵**

SCANNER TERMS . . .

PROGRAMMABLE • all frequencies are entered directly from the keypad.

DIRECT CHANNEL ACCESS • go directly to any channel without stepping through other channels.

PRIORITY • a channel that is constantly monitored to prevent missing important transmissions.

REVIEW • verifies frequency entered on each channel.

AUTOMATIC SEARCH • automatically finds new active transmissions in any of the bands.

SERVICE SCAN • automatic search of preprogrammed police, fire, emergency, aircraft and marine frequencies.

INSTANT WEATHER • automatically finds National Weather Service (NOAA) broadcasts in your area.

SCAN DELAY • in scan mode, adds short delay on desired channels to prevent missed transmissions — then resumes.

CHANNEL LOCKOUT • allows unused or busy channels to be shipped over when in scan mode.

AUTOMATIC SQUELCH • squelch responds to a factory preset signal level.

TRACK TUNING • allows scanner to achieve maximum sensitivity and reception on each channel.

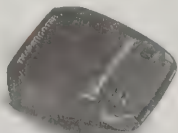
MEMORY LOCK/KEYLOCK • prevents accidental reprogramming of frequencies.

Cobra RADAR DETECTORS

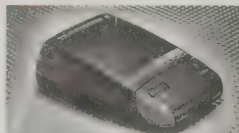
TRAPSHOOTER® STEALTH

Except when indicated otherwise, COBRA Trapshooter® Radar Detectors shown below have the following features

- Detects X, K & Ka bands
- Power-On Indicator
- Highway/City Switch
- Alarm Signal Indicator
- No False Circuitry
- Lockout Circuitry
- 3 position Dim Switch
- 3 LED Signal Strength Meter
- Volume Control
- Mute/Alarm Test
- Separate X, K & Ka Alarm Tones
- X, K & Ka band LED indicators
- Pulse/Instant-On Alarm
- Power Straight Power Cord
- Coiled Power Cord
- Hook and Loop Fastener
- Visor Bracket
- Windshield Bracket
- Carrying Case
- 3 position Dimmer Switch
- Laser adaptable
- Size: 3 1/4" w x 1" h 4" d.



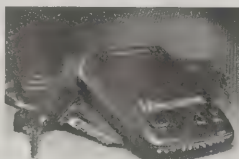
COBRA RD-300 (left) • All features except: Dim Switch; Signal Strength Meter; LED Band Indicators; Coiled Power Cord; Windshield Bracket; Carrying Case..... **\$79⁹⁵**



COBRA RD-302 (right) • All features except: Dim Switch; Signal Strength Meter; LED Band Indicators; Coiled Cord; Windshield Bracket; Carrying Case..... **\$99⁹⁵**



COBRA RD-304 (left) • All features except: Straight Power Cord; Windshield Bracket; Carrying Case..... **\$119⁹⁵**



COBRA RD-306 (right) • All features except: Does not come with Straight Power Cord..... **\$129⁹⁵**

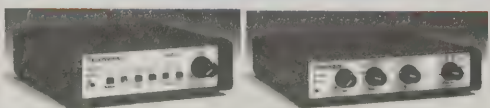


COBRA LD-200 LASER Detector • System detects new Laser Speed Technology. Attaches to any conventional radar detector or may be used alone. Has 1 1/2 mile detection range and features both visual and audible alarms. Inset shows unit docked with COBRA Trapshooter® 3 STEALTH. Comes with a universal mounting kit featuring 3 custom power cords and 9/12 volt power switch for complete compatibility..... **\$69⁹⁵**

More Cobra Radar models in Stock... Call!

TIMEWAVE Technology

Advanced DSP Filters



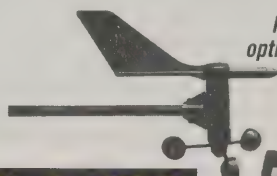
Improve reception by simultaneously reducing noise and heterodynes, filtering QRM and providing razor sharp audio. TW DSP filters feature third generation 16-bit processors for unmatched performance.

DSP-9 CW/SSB Filter • Selectable switching between 1.8, 2.4 and 3.1 kHz filters, and between 100, 200 and 500Hz CW filters. 12-16V Dc @ 500 mA. 6" w x 6" d x 1 1/4" h. 2lbs... **\$169⁰⁰**

DSP-59 Multi-Mode Filter • has 320 filter variation for all operational modes including RTTY, SSTV, AMTOR, PACTOR, HF Satellite, EME, SSB, CW, AM and weak signal VHF. 12-16VDC @ 500mA. 7 1/2" w x 8" d x 1 3/4" h. 2.2lbs..... **\$299⁰⁰**

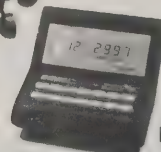
AZIMUTH

Azimuth Computerized Weather Stations Gives Wind, Temperature, Rain + Barometric Trend, Humidity, Dew Point, Alarms, Download & Graph Data on your PC, Remote with Modem Interface, Central Junction Box for Easy Hook-up. Modular Design. Perfect for NOAA WX Monitoring Stations.



For WeatherSTAR options - See Price List

WeatherSTAR Monitor II
\$369⁹⁵



MON-2

TEMPERATURE, WIND SPEED and DIRECTION, WIND CHILL FACTOR, TIME and DATE, IBM-PC INTERFACE*

*See Wizard II specs.

BAROMETRIC PRESSURE

- Barometric pressure from 26.00 to 32.00 in. of mercury (660 to 812 mm or 880 to 1084 mb).
- Trend arrow shows if pressure is stable or increasing or decreasing
- Alarm for change greater than .02, 0.4, or .06 inches of mercury

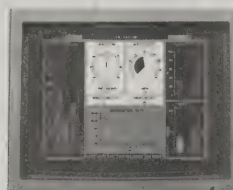
HUMIDITY

- Inside humidity from 10% to 90%.
- Outside humidity optional, requires external humidity/temp sensor, below High and low humidity readings with time and date
- Alarms for high/low humidities.
- 1 1/2" x 4 1/2" LCD display

External Humidity/Temp Sensor • Allows Monitor II to measure outside humidity, dew point and temperature. Comes with 40 ft. cable..... **HUMD \$79⁹⁵**



WIZ-2



WeatherSTAR Link Interface Software, cable, serial port adapters to connect IBM compatibles to WeatherSTAR.

WeatherSTAR Wizard II \$239⁹⁵

TEMPERATURE

- Inside temperature from 32°F to 140°F (0°C to 60°C)
- Outside temperature from 50°F to 140°F (-45°C to 60°C)
- High and low temperatures with time and date
- Alarms for high and low temperatures.

WIND SPEED AND DIRECTION

- Wind direction in 1° or 10° increments
- Wind speed to 126 mph (203kph, 109 knots for 56.0 m/s)
- High wind gust with time and date
- Alarm for high wind speed.

WIND CHILL FACTOR

- Wind chill to -134°F (-92°C)
- Low wind chill with time and date
- Alarm for low wind chill

TIME AND DATE

- 12 or 24 hour
- Time alarm
- Date
- 3/4" x 3/4" LCD display

OPTIONS

Rain collector RG4 self dumping, monitors rainfall - daily and accumulated in 0.1" increments
- Extension cables for anemometer or junction box
- WeatherSTAR Link IBM-PC interface for WX DataBase, Graphs and Charts.

PERIPHEx

POWER PACKS for Longer QSOs

These Super Packs feature short circuit protection and overcharge protection, and a 12 month warranty. Four models available for late model ICOM handhelds.

BP-7S • 13.2V @ 1200mah... **\$65⁰⁰**

BP-8S • 8.4V @ 1200mah... **65⁰⁰**

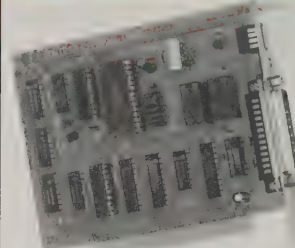
BP-84S • 7.2V @ 1400mah... **40⁰⁰**

BP-85S • 12V @ 800mah... **76⁰⁰**



See Price List for other Models.

Unified Microsystems



W9XT Contest Card for IBM™ PC & compatible

Stop repeating CQs, etc. . . turn your PC into a high powered contest machine! . . . this IBM™ PC and compatible 5" x 4 1/2" plug-in card which occupies a single 8-bit PC slot does voice recording and playback, and CW keying. Contains enough memory to store a full 16 seconds of voice which can be partitioned between four messages of different lengths for playback on command. Microphone input is sampled at an 8-kHz rate resulting in audio that is high quality and natural sounding. It's non-volatile and does not use any disk space. On CW, the card frees up the PC port, and uses a relay which allows operation with positive or negative-keyed rigs. The W9XT Card works with all rigs and is compatible with popular logging programs. A stand alone support program is included with the card. Low RF emissions - FCC Class-B certified. **\$179⁹⁵**

Bel Merit Multimeters



DM-10S Easy Tester (right) • \$24⁹⁵

- 3-1/2 digit LCD display
- automatic polarity
- 17 ranges
- Manual range selection
- AC volts: 750V maximum
- DC volts: 1000V maximum
- Resistance: up to 2000K Ω
- DC Current: to 200mA
- Diode & battery test
- 4 1/2" x 2 3/4" x 0.94", 5 oz
- Includes test lead, battery and case

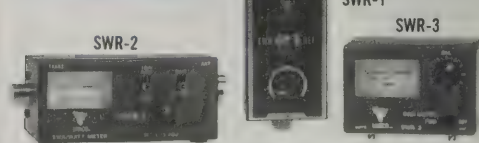
DM-3000 & DM-3050 Wide Range Multimeters (left)

- Big, 2 1/2" w x 1 1/4" h, 3 1/2" digit LCD readout
- DM3000 has 8 functions and 24 ranges, DM3050 has 10 functions and 27 ranges
- 10M Ω input
- Manual selection
- AC: 750V
- DC: 1000V
- Ω to 20M
- DC Current: to 20A
- Capacitance to 20uF
- Diode test
- DM-3050 has continuity beeper and tests frequency test to 200kHz
- 3 1/2" w x 7 1/2" h x 1 1/2" d, 10 1/2 oz.
- Test leads and 9V battery.

DM-3000 • \$49⁹⁵ - DM-3050 • \$59⁹⁵

VANCO

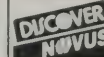
Low Cost Meters



Model SWR-1 • Combination Field strength and SWR meter for 3.5 to 150MHz; 52Ω. 6" h x 2" w x 2 1/4" d, 14 oz..... **\$19⁹⁵**

Model SWR-2 • Combination Power, SWR and Field Strength Meter for 1.7-150MHz; 52Ω. 0-10W and 0-100W ranges. Accuracy: SWR ±5%; Power ±10%. 6" h x 2" w x 2" d, 14 oz. **\$29⁹⁵**

Model SWR-3 • Economy SWR meter for the 1.7 to 30MHz range. Impedance: 52Ω; Sensitivity: 200uA; SO-239 connectors; Accuracy: ±5%. Mini size - 2 1/2" x 3 1/2" x 3"..... **\$14⁹⁵**



49 MHz Personal Communicators

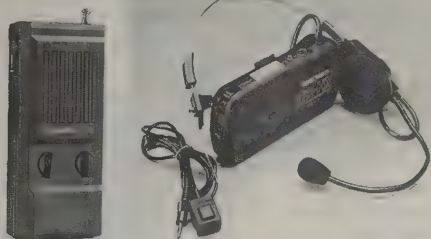
Low Power • 1/4 mile average range • No license required

Dual conversion superhet receiver provides crisp, clear voice transmission. All units are compatible - two or more can be used for group communications. Voice activated (VOX) lets you transmit when you talk, or use the bypass switch for push-to-talk (PTT). Volume and mic sensitivity controls prevent outside noise from triggering the VOX.



MAXON MX-49SX (left) • Single-channel, features a lightweight adjustable headset with retractable whip antenna. indicator, boom microphone with windscreen and battery charger jack. Range up to 1/4 mile. Requires 2 "AA" batteries, or "AA" size rechargeable nicads. 5" x 2 1/2" x 1", 9 oz. **\$29⁹⁵**

MAXON MX-49FX (right) • 5 channels. Features a unique ear-phone/microphone that picks up voice vibrations from the ear canal for transmit, and also provides receive audio. Built-in antenna gives up to 1/8 mile range and will not interfere with helmets. Includes remote PTT button and channel selector; Requires 3 "AA" batteries. 5 1/2" x 3" x 1", 6 oz. **\$59⁹⁵**

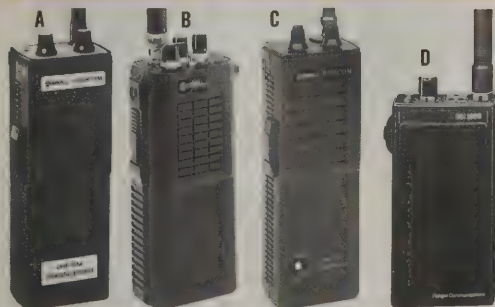


MAXON MX-49HX (right) • 5-Channels, Ideal for motorcycling and snowmobiling, etc. Helmet-adaptable headset has a whip antenna and boom microphone with windscreen. VOX operated or PTT with on-unit or remote switch. Front mounted off/on/volume, VOX sensitivity control and click detent channel selector. Jacks for optional passenger intercom headset. Uses 3-"AA" batteries-optional. 3" x 5 1/2" x 1", 6 1/2 oz. **\$49⁹⁵**

MAXON MX-49HD Hand-Held (left) • 5 channels, compatible with all other MAXON radios. Variable squelch and volume; dual conversion superhet receiver, call tone button for paging, adjustable volume, telescoping antenna. Uses 4-"AA" batteries optional. 6 1/2" x 2 1/2" x 1 1/2", 6 oz. **CLOSEOUT \$29⁹⁵**

Low Power VHF & UHF Handhelds

Ideal for for short range communications at construction sites, in factories, or security, etc.



COURIER PROCOM (A) • VHF-2W. Crystals installed for one of the frequencies listed below. Rechargeable nicad battery, charger, antenna. 7" h x 2 1/2" w x 1 1/4" d 16 oz. **\$139⁹⁵**

COURIER PROCOM M-54 (B) • VHF-5W, 4 channels, comes with 151.625MHz. 5 1/2" h x 2 1/2" w x 1 1/2" d 15 oz. **\$199⁹⁵**

COURIER PROCOM U-22 (C) • UHF-2W, 2 channels, includes of the frequencies below. 7" h x 2 1/2" w x 1 1/4" d 16 oz. **\$189⁹⁵**

RANGER RCI-1000 (D) • Mini-sized, VHF-1W output, 2 channels. Includes a set of crystals installed for one of the frequencies listed below, rechargeable nicad battery and AC charger, flexible antenna. 4 1/2" h x 2 1/2" w x 1 1/4" d, 12 oz. **\$129⁹⁵**

Frequencies . . .

VHF • 151.625 (itinerant), 154.570 or 154.600MHz

UHF • 462.575, 462.625, 462.675, 464.500 or 464.550MHz

ICOM Marine Radio



ICOM M-56 • 25/1W. All U.S. and International channels, 10 Weather channels. 20 memories, scanning with lockout. Dual watch simultaneously monitors channel 16 and one other. Instant channel 16. 5 1/2" x 2 1/4" x 6 3/4" d, 2.4 lbs. **\$369⁹⁵**

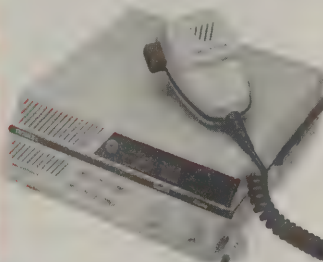


ICOM M-2 (left) • Thumbwheel frequency selection of 78 U.S. and International channels, 4 weather channels, and 4 aux. priority channels. 5W. 6" h x 2 1/2" w x 1 3/4" d, 1 1/2 lbs. **\$369⁹⁵**

ICOM M-5 (right) • Keyboard entry and control of all U.S. and International marine channels and 10 weather channels. Scanning; 10 memories; Dual watch; Instant Channel 16; 5 Watts output. May be connected directly to 12V DC to extend operation. 2 1/4" w x 2 1/4" x 1 1/4" d, 1.3 lbs. **\$399⁹⁵**

ICOM M-11 (center) • 6 Watts, frequency synthesized with 78 channel capacity. 8 1/4" h x 2 1/2" w x 1 1/4" d. **\$389⁹⁵**

Motorola TRITON Series Marine



Basic TRITON II features: 25W output, switchable to 1W; All VHF Marine Channels - US, International & Canadian + All Weather Channels; Instant Channel 16 and Weather; Reversible tilt-face Front Control Panel and Microphone; Rotary Channel Selector; LCD Display; Mounting Bracket and Hardware **H5057R \$229⁹⁵**

TRITON II+ and (IIC) • Additions: built-in Loudhailer capability, programmable channel scan, programmable channel bank, dual watch **H5058R \$329⁹⁵**

TRITON IIC • Additions: built-in analog voice scrambler*, up to 300 different user programmable codes.*Scrambler requires Munitions License to export **H5059R \$499⁹⁵**

ICOM Land Mobile



IC-V100 VHF Mobile (left) • 148-174MHz; 50W; 16 Channels with Programmable transmit and receive CTCSS Tones; LCD readout; Fully Synthesized; Scanning, with or without Priority. Requires 13.8V DC @ 12A. 2" h x 6 1/2" w x 10 1/2" d **\$649⁹⁵**

IC-U400 UHF Mobile • Looks identical to V100 above, and same except. 450-480MHz; 35W; 13.8V DC @ 10A **\$649⁹⁵**

IC-H16 VHF Handheld • 148-174MHz; 3 Watts, 5 Watts optional; 16 Channels with Programmable transmit and receive CTCSS Tones; LCD readout; Fully Synthesized; Scanning, with or without Priority; DTMF. Battery pack, flexible antenna and belt clip. 8" h x 2 1/2" w x 1 1/2" d, 1.3 lbs. **\$549⁹⁵**

IC-U16 UHF Handheld • Looks identical to the H-16 (left), and same except. 450-490MHz; 2.5W, 5W optional **\$569⁹⁵**

RANGER Marine Radio



RANGER RCI-6060 • Keypad entry, covers all U.S. and International channels +10 weather channels. All channel scanning, direct access to channel 16 and dual watch mode. Back-lit LCD display, power Up/Down mic switch and external speaker jack. Power: 25W (High), 1W (low). Weather resistant housing, flush mounts. 3" h x 7 1/2" w x 8 1/4" d, 2 lb **\$179⁹⁵**



RANGER RCI-7000 (left) • Digital thumbwheel selection of all U.S. and International channels + 8 weather channels. Direct channel 16 access, dual watch mode. Power: 5W (high) 1W (low). External speaker jack. Rechargeable battery pack/charger included. 7 1/2" h x 2 1/2" w x 1 1/4" d. **\$159⁹⁵**

RANGER RCI-9000 (rt.) • All features of the RCI-7000 but keypad entry and including LCD display, 10 wx channels, and memory scan **\$199⁹⁵**

Shakespeare

Marine Antennas



5202 (A) • Collinear-phased 5/8-wave elements. 6dB gain. 8 ft. long, handles 50W. DC grounded. Chrome-plated brass ferrule. 20 ft. coax cable with connector. **\$59⁹⁵**

497 (B) • Collinear phase 5/8-wave elements. 6 db gain. 8 ft. long, handles 50W - not DC grounded. Smaller diameter absorbs flex. 20 coaxial cable with connector. **\$39⁹⁵**

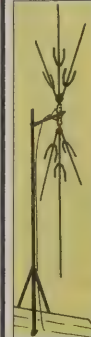
5206-C (C) • Economy model. End fed, 8 ft. long, 6dB gain. Handles 50W, DC grounded. 15 ft. coax cable w/ connector **\$29⁹⁵**

420 (D) • Center-fed 1/2-wave coaxial sleeve model. 3dB gain, 5 ft. long. Polycarbonate lift and lay deck mount with leveling plate, hardware & 20 ft coax cable w/ connector. **\$44⁹⁵**

495 (E) • Lift and lay polycarbonate deck mount. **\$14⁹⁵**

366H (F) • Ratchet mount with handle for deck or bulkhead mounting. Has 9/32" hole for Loran cable. Standard 1"-14 male threads. Chrome plated zamac. **\$29⁹⁵**

Channel Master



Extend scanner range many times with an externally mounted Channel Master Monitenna. Provides efficient reception of the 30-50, 148-174, 450-470, 470-512 & 800-912 MHz bands.

Model 5094A • High-strength aluminum, and weather protected. Comes with 50 ft. length of coaxial cable and Motorola-type plug **\$39⁹⁵**

Model 5095A • Everything for roof-top installation: Monitenna, 50 ft. coaxial cable with plug, 5 ft. tri-mast mount, 2 ft. extension stand, double headed nails, and sealing washers **\$49⁹⁵**

Receives latest local Weather broadcasts on 162.400, 162.475 or 162.550 MHz - up to 50 miles! Sounds "Severe Weather Alert" when triggered by transmitting station tone. 110V AC, with battery back-up 5 1/4" x 4 1/2" x 1 1/4", 12 oz. **\$39⁹⁵**

MAXON



WX-3 • Weather Monitor

Clocks for the Hamshack



BMI

BMI 972A (left) • Battery operated 12-hour time quartz controlled clock with 12" dial and sweep second hand. Black textured case and clear glass crystal. Uses 1 (size AA) battery. 14" dia. x 1 1/4" d. Looks good in shack! **\$37⁹⁵**
BMI 973A (right) • 24-hour version **\$49⁹⁵**



Model 972AD
14" diameter 12/24 hour
format wall clock
\$39⁹⁵

MFJ World Map Clock



MFJ-112 • The Dx'ers World Map Clock and Calendar. Uses the latest electronic and display technology to show world map with 25 major world cities selected by pushbutton. 12-hour time format with alarm feature. Large 1/2" LCD readout shows: Time, Month and Day in 24 world time zones. Includes tilt bracket and long life lithium battery. 5 1/4" w x 3 1/4" h x 5/8" d **\$24⁹⁵**



Small 24-hour Clocks

Choose from two models—a Dual Clock with separate UTC and local time displays, or a Single Clock with 24-hour time only. Heavy brushed aluminum frame, 5/8" high LCD numerals, and sloped face. Flashing seconds colon. Includes battery.

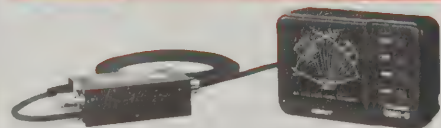
MFJ-107B • Single Clock, 2 1/4" w x 1" h x 2" d **\$9⁹⁵**
MFJ-108B • Dual Clock, 4 1/4" w x 1" h x 2" d **19⁹⁵**

Azimuth



Model GC24 • Giant-Size Digits! No more squinting. This clock features an amazing new "see-thru" LCD 3 1/2" w x 2 1/4" h with BIG floating digits that are over 1 1/4" high. Sets in nice 4 1/2" h brushed black metal stand. Battery operated (included) **\$29⁹⁵**

COMET Meters



COMET CMX-Series Meters • Three models, ideal for use with remote head mobile rigs. Features a separate meter and RF sensor with 6 ft. cable (up to 16 ft. optional 10 ft. extension). Lighted, colored Cross needle meter shows Forward/Reflected Power, and VSWR simultaneously. Three selectable power ranges plus shows DC voltage from power source. 12VDC.

CMX-1 • 1.8-60MHz, 30/300/2KW ranges **\$189⁹⁵**
CMX-2 • 1.8-200MHz, 20/50/200W ranges **179⁹⁵**
CMX-3 • 140-525MHz, 20/50/200W ranges **169⁹⁵**

ASTRON Power Supplies



The alternative to more costly "matching" power supplies

Features: 105-125V AC input/13.8V DC output; internally adjustable from 11-15V. • Electronic regulation with fold-back current limiting and crowbar overvoltage protection • Heavy-duty heat sink • 3-wire power cord • One-year warranty • Made in U.S.A.

Separate voltage and ampere meters on RS-20M, 35M, 50M and 70M. Separate voltage and ampere meters plus front panel voltage adjustment (with 2-15V DC range) on VS-20M, VS-35M and VS-50M. Models RM-35M, RM-60M and RM-50M are for rack mounting.

Astron Model	Cont. Amps	ICS Amps	Size (in.) h w d	Ship. wt.	Regular Price	SALE Price
RS-7A	5	7	3 1/4 x 6 1/2 x 9	9	\$68.95	\$59⁹⁵
RS-10A	7 1/2	10	4 x 7 1/2 x 10 1/2	11	85.95	69⁹⁵
RS-12A	9	12	4 1/2 x 8 x 10 1/2	13	99.95	79⁹⁵
RS-20A	16	20	5 x 9 x 10 1/2	18	121.95	99⁹⁵
RS-35A	25	35	5 x 11 x 11	27	197.95	149⁹⁵
RS-50A	37	50	6 x 13 1/2 x 11	46	285.95	219⁹⁵
RS-70A	57	70	6 x 13 1/2 x 12	48	339.95	259⁹⁵

Separate volt/amp meters

RS-20M	16	20	5 x 9 x 10 1/2	18	144.95	119⁹⁵
RS-35M	25	35	5 x 11 x 11	27	204.95	169⁹⁵
RS-50M	37	50	6 x 13 1/2 x 11	46	314.95	239⁹⁵
RS-70M	57	70	6 x 13 1/2 x 12	48	372.95	289⁹⁵

Variable output, separate volt/amp meters

VS-20M	16	20	5 x 9 x 10 1/2	20	170.95	139⁹⁵
VS-35M	25	35	5 x 11 x 11	29	238.95	189⁹⁵
VS-50M	37	50	6 x 13 1/2 x 11	46	330.95	259⁹⁵

Rack mount models; separate volt/amp meters

RM-35M	25	35	5 1/2 x 19 x 12	38	318.95	249⁹⁵
RM-50M	37	50	5 1/2 x 19 x 12	50	354.95	279⁹⁵
RM-60M	50	55	7 x 19 x 12	60	467.95	359⁹⁵

ASTRON Solid-state power inverters

General Purpose

Model 12/115 • Converts 12V DC to 115VAC @ 60 Hz output. Provides convenient AC house current in your Boat, Car, Truck, Camper, etc. Powers small household appliances, TV, tools, radios and lights up to 200W continuous, with peaks up to 240W. Square wave output, overload protected. Not recommended for devices where high transients are not tolerable. 4 1/2" h x 8" w x 9" d, 9 lbs. **\$59⁹⁵**

Aircraft

Model 2412 • Converts 22 to 32V DC to 13.8V DC @ 9 amps. Eliminates tapping into 28V battery for 12V **\$69⁹⁵**
Model 2412-20 • Same as above, but 16 amps **109⁹⁵**

NORCOMM

Sub-miniature
Touch-Tone®
Decoder



Model NC401 • Designed for selective signaling in many applications. Combines three distinct, separately addressable DTMF Decoders in one unit for multiple user-configurable output functions. Decodes all 16 standard DTMF characters with an address length of 1-14 characters and features E2Prom memory for non-volatile storage of programmed codes, input and output functions, remote programming, deadbeat disable and user outputs. Programs by means of a conventional DTMF Encoder. Comes with 12" multiple leads and plug. 8.3" w x 1.5" l x .23" h **\$59⁹⁵**

TOP TRADES • We will take your Clean, Late Model gear in trade towards New Equipment shown in this catalog. Write or Call for a quote today.



AZIMUTH World RadioSphere

Model ARS-2 • Now you can see the World of Ham Radio with this gorgeous 12-inch acrylic World Globe. Translucent colors — blue water with green land masses. This superb, hand blown globe shows all DX radio prefixes and world radio zones (in red), latitude and longitude, international date line, cities, countries and more. All graphics are applied, sealed and protected inside of the globe. With the white wax pencil provided you can plot DX headings and distances, then rub it off and start fresh. Handsome clear base. **\$99⁹⁵**

Forbes Group Ventenna™

It's Virtually unnoticeable because it looks like part of the normal structure. It simply slips over an existing 1"-2 1/2" inch plumbing vent pipe. Just connect your coax and you're on the air without any tuning or measuring required.

Models:

VT-14 • 2 meters, 3 ft. tall, 2.6dB gain **\$44⁹⁵**
VT-22 • 220MHz, 25" tall, 2.6dB gain **\$44⁹⁵**
VT-27 • 2m/440MHz ... **\$66⁹⁵**
VT-44 • 440MHz, 14" tall, 2.6dB gain **\$44⁹⁵**
VT-15S • Scanner Model 3 ft. tall, 2.6dB gain **\$44⁹⁵**
VT-SWL • SWL Model 3 ft. tall, 20dB active gain **\$119⁹⁵**



CROSS DEVICE DIELECTRIC STUF WATERPROOFING FILLER (Non-Hardening)

For COAXIAL CONNECTORS
Waterproofs from the inside out!



- High purity macroscopic foam, dielectrically simulates coaxial cable core.
- Contains no silicones, etc. to harm cable material
- Just fill connector and tighten — hydraulically channels filler into all connector voids and ports where moisture can infiltrate.
- About 4.5¢ per connection.

QUICK & EASY — COMPLETE — WITH NO INSERTION LOSS

**\$4⁵⁰
PER TUBE**

Call AES® Toll Free . . .
Hours: Mon thru Fri. 9-5:30; Sat. 9-3

CLOSEOUTS & SPECIALS



ALINCO DJ-162TD (A) • 2m FM handheld — receive covers 130-174 MHz (modifiable for 118-136MHz aircraft receive and MARS/CAP transmit). 2.5W out; 5W with opt. battery or 12V. Keypad, 20 memories, autodialer, CTCSS, DTMF encode, DSQ paging. 5 $\frac{1}{2}$ " x 2 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ ", 1 $\frac{1}{4}$ lb. **CLOSEOUT \$199⁹⁵**

KENWOOD TH-47A (B) • 440MHz FM handheld — covers 438-449.995MHz. 1.5W output with standard battery pack or 5W out with optional pack. Multi-function band and memory channel scanning. Digital clock with programmable timer. Auto battery saver and power off, economy mode. DTMF memory function may be used as an autodialer. CTCSS encode/decode built-in. 2" w x 5" h x 1 $\frac{1}{2}$ " d, 0.8 lb. **CLOSEOUT \$249⁹⁵**

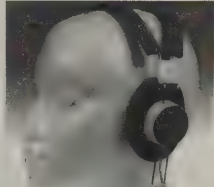
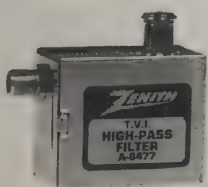
KENWOOD TH-315A (C) • 220MHz handheld — covers 215-230MHz tx, 220-225MHz rx. 2.5W output with standard battery pack; optional batteries for 5W high power or 1.5W extended operation. Direct keyboard entry, LCD display, 10 memories, scanning. CTCSS encoder. Belt hook, flexible antenna, battery and wall charger. Also operates from 7.2-16V external DC. 6 $\frac{1}{2}$ " h x 2 $\frac{1}{2}$ " w x 1 $\frac{1}{4}$ " d, 1.2 lbs. **CLOSEOUT \$249⁹⁵**

YAESU FT-815 (D) • 70cm FM handheld — covers 430-450 MHz transmit and receive. 2W output. Dual VFOs, 41 tunable memories (odd splits on any channel). DTMF paging and coded squelch, 15-digit DTMF autodialer, CTCSS encode/decode, VOX. 4-level power output, battery saver and automatic power off. 2 $\frac{1}{2}$ " w x 5 $\frac{1}{4}$ " h x 1 $\frac{1}{4}$ " d, 12 $\frac{1}{2}$ oz. **CLOSEOUT \$329⁹⁵**



ICOM IC-2AT • 2m FM handheld with TTP. Covers 114-148 MHz, 2W output. Simple thumbwheel frequency selection. (with ICOM \$20 Coupon)

CALL



ZENITH A-8477 • High-pass filter—protects TV sets from harmonic interference from transmitters operating 6 to 160 meters. More than 45dB attenuation at 52 MHz & lower. 75 Ω TV type-F connectors. 2" x 1 $\frac{1}{4}$ " x 1" **CLOSEOUT \$9⁹⁵**

HY-GAIN 610-1 • Soft, cushioned earphones adjustable for a comfortable fit. Blue and white vinyl, 600 Ω Impedance—works fine with most radios. Comes with 54" straight cord with molded standard 1/4" plug. **CLOSEOUT \$9⁹⁵**

Something for everyone!

**NOVICE
TECHNICIAN +
GENERAL
ADVANCED
EXTRA Class**

**CLOSEOUT
\$199⁹⁵**



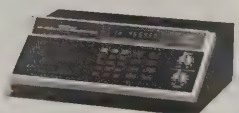
ICOM IC-2410A • 2M/440MHz.(25W)—Orange Display Simultaneous two band reception and two frequency VHF or UHF in-band receive. Optional remote control with DTMF microphone. Crossband repeat capability with repeater offsets. Duplexer and tone encoder, 36 memories. 5 $\frac{1}{2}$ " w x 1 $\frac{1}{4}$ " h x 6 $\frac{1}{2}$ " d, 3 lbs. 12V DC @ 6A. **CLOSEOUT \$569⁹⁵**
IC-2410AB • same as 2410A, but Black Display **\$569⁹⁵**

**KENWOOD
CD-10
Call Sign Display
C/O \$49⁹⁵**

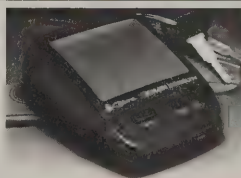


For TM-211A, TR-2600/TR-3600A, TM-2530A/50A/70A, TM-3530A, TS-711A/811A, TR-751A/851A, etc When receiving signals from other DCL/DCS transceivers, CD-10 decodes the digital ASCII call sign data that is a portion of the DCS data string, and shows it on the alphanumeric display.

**UNIDEN BC-800XL
12 Band Scanner
CLOSEOUT \$219⁹⁵**



**UNIDEN BC-210XL
11 Band Scanner
CLOSEOUT \$129⁹⁵**



COBRA RD-6000 SOLAR STEALTH • Solar Powered "X" and "K" band Radar Detector. Continuous charging of internal batteries in daylight make it possible to operate at night. Loaded with features! **C/O \$139⁹⁵**

Miscellaneous Closeouts

ICOM IC-H18 • VHF, 5w 16 ch Business HT **\$399⁹⁵**
ICOM IC-U18 • UHF 5w 16 ch Business HT **399⁹⁵**
KENWOOD BC-15 • Rapid Charger; PB-13/14 **49⁹⁵**
NYE ESK-001 • Battery operated CMOS Keyer **39⁹⁵**
MFJ 484C • Memory keyer **99⁹⁵**

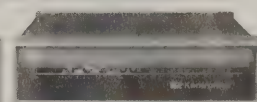
UNIDEN HR-2600 10m Transceiver
AES has sold 1000's of these radios! They provide loads of fun on 10 meters operating Base or Mobile for local communications as well as occasional worldwide DX. Participate in Club Events, Nets, Repeaters and Emergency Communications.

✓ **BAND:** 10 meters only; 28.0 to 29.7 MHz
✓ **MODES:** FM • SSB • CW • AM
✓ **POWER:** 25W SSB/CW PEP, 10W AM/FM

✓ **FEATURES:** • Selectable step digital VFO tunes with knob, switches or up/down buttons on microphone. • Multi-function LCD display • Scan mode • Noise blanker • RIT • automatic squelch • SWR indicator • 100kHz offset for repeater operation more! • 2 $\frac{1}{2}$ " h x 7 $\frac{1}{4}$ " w x 9 $\frac{1}{4}$ " d • 13.8 VDC @ 5A



YAESU FT-767GX • All mode 160-10M transceiver with 100kHz-30MHz receiver. Optional plug-in modules for 6M, 2M and 70cm. 100W output below 30MHz—10W above. Dual VFOs, mode & frequency memories, memory and sub-band scanning. Speech processor, CW keyer (QSK or semi-break-in), IF shift. RF preamplifier and attenuator, squelch, noise blanker. Multi-function meter, and digital SWR/Power meter. Data jacks for packet. CAT system bus for computer control, built-in AC supply. 5 $\frac{1}{2}$ " h x 14 $\frac{1}{4}$ " w x 11 $\frac{1}{2}$ " d, 30 lbs. **CLOSEOUT \$1699**

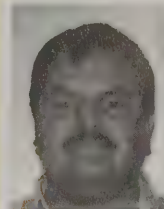


KANTRONICS KAM • All Mode Communicator **C/O \$219⁹⁵**

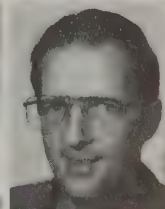
KANTRONICS KPC-2400 • Packet unit complete with Hostmaster II+ software **CLOSEOUT \$149⁹⁵**



**"Se
Habla
Español"**



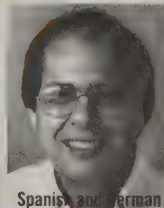
EDDIE KD4RAZ
ORLANDO Store



NATHAN KN4BJ
ORLANDO Store



JIM N4L10
ORLANDO Store



VICTOR N4COU
Clearwater Store



BOBBY N7XE
LAS VEGAS Store

AES® Store Locations

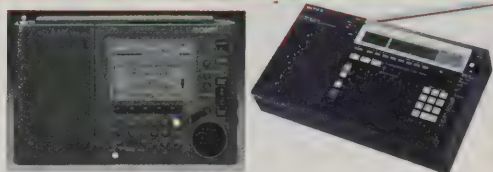
Phone

Toll Free

FAX

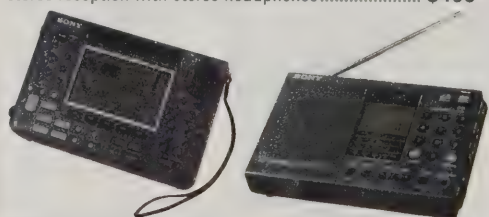
Milwaukee, WI 53223; 5710 W. Good Hope Road	(414) 358-0333	1-800-558-0411	(414) 358-3337
Wickliffe, OH 44092; 28940 Euclid Avenue	(216) 585-7388	1-800-321-3594	(216) 585-1024
Orlando, FL 32803; 621 Commonwealth Avenue	(407) 894-3238	1-800-327-1917	(407) 894-7553
Clearwater, FL 34625; 1898 Drew Street	(813) 461-4267		(813) 443-7893
Las Vegas, NV 89106; 1072 N. Rancho Drive	(702) 647-3114	1-800-634-6227	(702) 647-3412

SONY



SONY ICF-2010 (right) • Covers 150kHz-30MHz, 76-108MHz and 116-136MHz MHz; AM/FM/SSB/CW. Tunes manually or by keyboard entry, automatic scan, memory scan or 32 memory presets. LCD display, switchable IF bandwidth, fine tune. 12/24-hour clock with alarm, programmable timer, and sleep timer. Telescoping and built-in ferrite bar antennas, 4" speaker. Record, earphone, external antenna and DC jacks. Operates from 3 "D" and 2 "AA" batteries, 12V DC, or optional 110V AC adapter. 6½" h x 11½" w x 2½" d, 3½ lbs **\$349⁹⁵**

SONY ICF-SW77 (left) • Same coverage (except aircraft) and features of the ICF-2010. Stores up to 100 stations (162 frequencies), allows stations to be selected by name and is capable of storing broadcast schedules. Programmable six character Station Name Display, 50 Hz tuning resolution, FM stereo reception with stereo headphones **\$499⁹⁵**



SONY ICF-SW7600 (right) • 153kHz 29.995MHz + 76-108MHz AM/SSB/CW/FM, FM Stereo with headphones. 10-key direct access, memory scan or 10 memory tuning. LCD, 12/24 hour clock/timer. Telescoping and ferrite bar antennas, and external. wire antenna in reel-in case. Record, earphone, ext. ant. and power jacks. Requires 4 "AA" batteries or use included 110V AC adapter. 4¾" x 7¾" w x 1¾" d, 1½ lbs **\$219⁹⁵**

SONY ICF-SW55 (left) • Similar to ICF-7600, but improved. Step scan tuning, 100 memories, programmable station display. EEPROM memory - needs no back-up battery **\$369⁹⁵**



SONY ICF-7601 (left) • 12 bands - AM/FM broadcast and 10 shortwave bands. LED tuning indicator, wide bandspread, music/news tone switch, 3½" speaker, earphone jack. Telescoping and built-in ferrite antennas. Uses 4/AA batteries. 7¾" w x 4¾" h x 1¾" d, 1 lb, 5 oz **CLOSEOUT \$119⁹⁵**

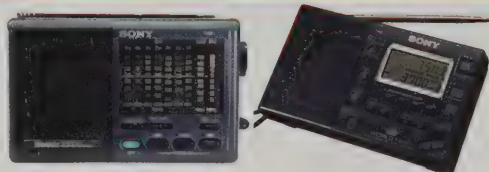
SONY ICF-SW1S (right) • 150kHz-29.995MHz + 76-108MHz; FM Stereo with earphones. 10-key direct access, 10 presets, auto and manual scan tuning. LCD, clock w/alarm, Travel case, external wire antenna in reel-in case and telescoping whip antenna with antenna booster/controller, AC adapter, and stereo earphones. 4¾" w x 2¼" d x 1½" d, 6½ oz. **\$299⁹⁵**

ICF-SW1S shown with included case and accessories.

SONY

Home Stereo, Auto Sound, Portable Sound, Television, Big Screen TV, Video Cameras, Camcorders available from ...

AUDIO PLUS - See page 155



SONY ICF-SW15 (left) • 9 bands: FM/MW (AM)/SW 1-7. Dual conversion with bandspread tuning. Feather touch power/band controls. DC-in jack, tone control switch, band hold switch. Includes carrying case and shortwave book. Uses 3 (size AA) batteries. 6½" w x 4" h x 1½" d, 13.4 oz **\$89⁹⁵**

SONY ICF-SW33 (right) • World Time Clock, adjustable by City Name. 13 bands: FM Stereo/MW/AM SW (1-11). FM stereo through earphones. Frequency synthesized tuning with 17 station memory presets and scan tuning. Digital frequency display. Clock feature with 5 time presets, sleep timer and automatic shut-off. News/Music tone control, battery life indicator. Uses 3 (size AA) batteries. 6¾" w x 3¾" h x 1½" d, 14.2 oz. **\$169⁹⁵**



SONY ICF-SW800 • Covers FM plus SW from 3700-17.9MHz (MW). User programmable but also comes with three plug-in memory card with preset frequencies for 60 pre-programmed station presets - VOA, BBC, DW, etc. plus a special clock card. 10-key direct access tuning, PLL quartz synthesis tuning, dual conversion circuitry. Clock and timer function. Requires 3 "AA" batteries (not supplied). 4¾" h x 7¾" w x 1¼" d **\$129⁹⁵**

**HOT
CLOSEOUT
PRICE!**

Was \$3999⁰⁰ in our last Catalog!



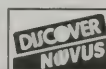
SONY CRF-V21 (right) • VLF/LW/MW/SW/FM Weather Satellite Visual Band Receiver. Displays, records, and prints out weather charts, photos and hard copy of LCD display. Tuning modes: spectrum analyzed, analog, 10-key direct access or 350 memory presets with name labeling. Three-way scan, clock/8-event programmable timer. AC adapter, rechargeable battery/charger, active telescopic antenna, dust cover, printer paper, RS-232 cable. 11¾" h x 16¾" w x 6¾" d, 21 lbs **CLOSEOUT \$1299**

JRC



JRC NRD-535D • All-mode (AM, SSB, CW, RTTY, FAX and NBFM) - covers 100kHz-30MHz. Keypad entry, DDS-based frequency synthesizer, synchronous detector with selectable side bands for enhanced AM reception. Four fixed filters plus variable bandwidth control, 100 memories, computer interface, electronically tuned front end, scanning, dual noise blanker, squelch, clock timer. Includes: CFL-233 1kHz crystal filter, CFL-243 Bandwidth control and CMF-78 ECSS unit. 120/240V AC or 12V DC. 13" w x 5" h x 11" d, 20 lbs **\$1748**

JRC NRD-535 • Like 535D, less CFL-233 crystal filter, CFL-243 bandwidth control and CMF-78 ECSS unit **\$1229**

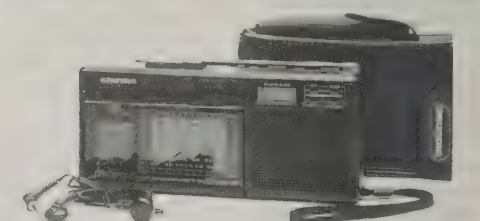


GRUNDIG

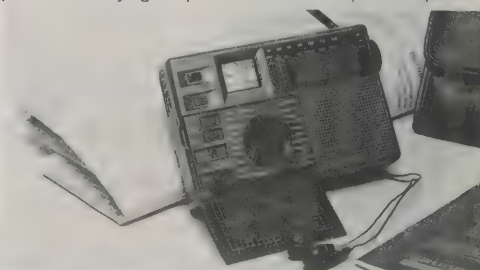


**GRUNDIG
TOLL FREE
Product Info
Line:
1-800-872-2288**

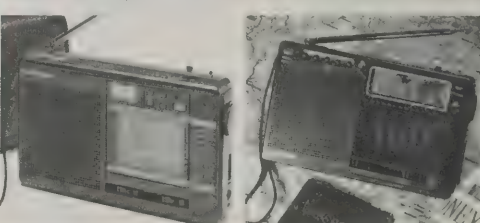
GRUNDIG Satellit 700 • Covers 1.6-30MHz includes AM, FM and LW bands with 512 standard memory positions. FM stereo with headphones or external speakers (not included). Direct frequency entry via backlit keypad, SSB and synchronous detectors, wide/narrow filters. Dual clocks and turn-on timers, sleep timer, 8 character memory bank labeling with 2,048 memories possible. LCD multi-function display, Built-in telescoping, ferrite antenna and ext. antenna connector, Operates from 110/220/240V AC, 4 (size D) alkalines or nicads (not included), built-in charger. 12" w x 7" h x 2¼" d, 4 lbs **\$499⁹⁵**



GRUNDIG Cosmopolit • Combines an AM/FM stereo/SW radio with a Cassette player-recorder Seven SW shortwave bands: 5.85-6.3, 7.1-7.5, 9.4-10, 11.5-12.2, 13.45-13.95, 15.05-15.7 and 17.5-18.1 MHz. Cassette recorder has a built-in microphone, ext. microphone jack and 3-digit counter. Digital clock with alarm with choice of radio, buzzer or tape wake-up. Unique synthesizer provides voice announced time. Uses 3 (size AA) batteries. Comes with stereo headphones, travel pouch and carrying strap. 8" w x 3.4" h x 1.7" d, 1.2 lb ... **\$219⁹⁵**



GRUNDIG Traveller II • 7 bands: covers AM/FM broadcast the 19, 25, 31, 41, 49M shortwave bands and 5.8-15.6MHz. Multi-function LCD display, pushbutton and slide controls, tuning indicator. World time selection switch - select a city and read the time! Clock with travel alarm. Requires 3 (size AA) batteries (not included). Telescoping and built-in ferrite antennas. Built-in 2" speaker, jacks for included earphones and ext. AC adapter (not included). 5½" w x 3½" h x 1¼" d **\$99⁹⁵**



GRUNDIG Yacht Boy 206 (left) • 15 bands: covers AM/FM and 12 SW bands. Provides stereo FM with headphones. Multi-function LCD display with indications of time, alarm time and sleep. LED tuning indicator. Built-in 24-hour digital LCD clock/timer with alarm and snooze. Uses 4 (size AA) batteries or 4.5V DC. Travel case included. 4¾" h x 7" w x 1½" d. **\$129⁹⁵**

GRUNDIG Yacht Boy 235 (right) • Covers LW, MW, FM stereo and 12 SW bands: 120, 90, 75, 60, 49, 43, 31, 25, 22, 19, 16 and 13M; 2.3-21.85 MHz. Electronic volume and band switches, 12/24 hour clock-timer with light, snooze and sleep. Press a button and 43 major cities, along with the time, appear on the world LCD map. Uses 3 (size AA) batteries, or 4.5V DC. Travel case included. 4¾" h x 7" w x 1½" d, <1 lb. **\$139⁹⁵**

ICOM



ICOM R-71A • All mode (FM optional), with 100kHz-30MHz general coverage. Dual VFO's and direct keyboard entry, 32 tunable mode and frequency memories. RIT, notch, selectable AGC, noise blanker, tone, squelch, recording jack. Selectivity: 500 Hz, 2.3 kHz, 6 kHz, 15 kHz. Optional wireless remote controller and voice readout units. 110/220V AC, optional kit for 12V DC operation. 11 $\frac{1}{2}$ "w x 4 $\frac{1}{2}$ "h x 10 $\frac{1}{2}$ "d, 16 $\frac{1}{2}$ lbs. **CALL**

ICOM R-7000 Scanning Receiver • Similar to R-71A but covers 25-2000MHz. FM, scan, 99 memories, more! **CALL**



ICOM R-7100 • All mode UHF receiver with coverage from 25 to 2000MHz. Dial and keyboard entry, 900 numbered memory channels. Multiple scan capabilities with new window scan, clock/timer, optional TV receive capability **CALL**



ICOM R-9000 • All mode, 100kHz-2000MHz continuous. Uses 11 separate bandpass filters from 100kHz-30 MHz, and tuned bandpass filters with low noise GaAs FET's for VHF and higher. Manual tune or keyboard entry, 1000 multi-function memories and 8 scan modes. 5" CRT displays frequencies, modes, memory contents, operator entered notes, and functions. Spectrum scope allows observation of adjacent receive frequencies. Terminal monitor function for monitoring of RTTY or Packet information from terminal or TNC. IF shift, notch, noise blanker. 16 $\frac{1}{2}$ "w x 5 $\frac{1}{2}$ "h x 14 $\frac{1}{2}$ "d, 44 lbs **CALL**



ICOM R-72 • 30kHz-30MHz coverage, SSB/CW/AM, FM opt. 101 memories: 99 store frequency/mode, 2 store independent scan edge channels. Scanning: programmed, selected memory, memory and auto memory write. RF attenuator and preamp, noise blanker, ICOM's DDS and CI-V systems, and clock/timer function. 9 $\frac{1}{2}$ "w x 3 $\frac{3}{4}$ "h x 9"d, 11 lbs **CALL**

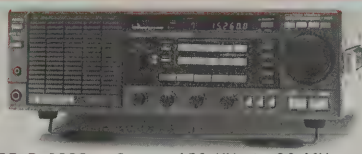


ICOM R-100 • Base or mobile, 100kHz-1856MHz continuous; FM, wide FM and AM. Keyboard or manual tuning, selectable tuning steps and scan. 121 memories: 100 for frequency and mode, attenuator and preamp settings; 20 scan edge for 10 pairs of ranges for programmed scan; 1 priority. 24-hour clock/timer, 3 antenna inputs. Telescoping antenna and mobile mount included. 13.8V DC @ 1A **CALL**

ICOM R-1 • Handheld SW receiver. Covers 100kHz-1300MHz; FM/wide-FM and AM. 100 memory channels. Programmed, memory, selected mode memory, and auto memory write scanning. Rotary tuning or direct keyboard entry, LCD display, 24-hour clock/timer, adjustable LCD contrast, signal indicator. Power-saver function. Built-in NiCd batteries; optional batteries or 6-16V external. DC. 1 $\frac{1}{2}$ "w x 4" h x 1 $\frac{1}{2}$ "d **CALL**

See Price List for ICOM Accessories

KENWOOD



KENWOOD R-2000 • Covers 150 KHz to 30 MHz and 108 to 174MHz with optional the VHF converter unit. SSB/CW/AM/FM modes. Dual digital VFOs, Ten memories store frequency, band, and mode data. Scanning. Digital display with 100Hz resolution, three built-in IF filters, optional CW filter. S-meter noise blanker, attenuator, squelch, tone. Dual 24-hour clocks with timer, record and phone jacks muting terminals. 110/220 VAC, 12 VDC optional. 14 $\frac{1}{2}$ "h x 4 $\frac{1}{2}$ "h x 8"d, 12 lbs **CALL**



KENWOOD R-5000 • Covers 100 KHz to 30MHz and 108 to 174MHz with optional VHF converter unit. SSB/CW/AM/FM modes. Dual VFOs, direct keyboard frequency entry. 100 memories store mode, frequency and antenna selection. Scanning, dual noise blankers, selectable AGC, attenuator, dual 24-hour clocks and timer. Muting, record and headphone jacks. Optional filters, voice readout and computer control. 110V AC with 12V DC optional. 10 $\frac{1}{2}$ "w x 3 $\frac{3}{4}$ "h x 10 $\frac{1}{2}$ "d, 12 lbs **CALL**



KENWOOD RZ-1 • Base or mobile 500kHz-905MHz wide-band scanning receiver. FM/wide-FM, AM modes; and FM stereo with outputs to drive an external amplifier. Automatic mode selection function, 100 memories with message and band marker. Direct keyboard or VFO frequency entry with four types of scanning Built-in speaker front mounted phone jack, switchable AGC, squelch, illuminated keys. 12VDC. 7 $\frac{1}{4}$ "w x 1 $\frac{1}{4}$ "h x 6"d, 3.31 lbs **CLOSEOUT \$499"**

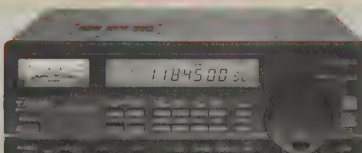
See Price List for KENWOOD Accessories

DRAKE



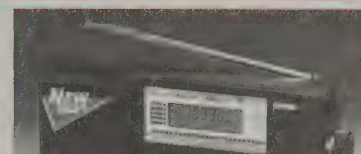
DRAKE R-8 • Communications receiver. Covers 100kHz to 30MHz plus 33 to 55, and 108 to 174MHz with optional converters. Dual VFOs, 100 memories. AM, FM, RTTY, CW, SSB modes; 5 bandwidth filters; GaAsFET RF amps, fluorescent display, dual time-zone clock. Dual noise blanker IF shift, IF notch, S-meter. 13 $\frac{1}{2}$ "w x 5 $\frac{1}{4}$ " h x 13"d, 13 lbs **\$979⁰⁰**

YAESU



YAESU FRG-100B • Newest, high performance communications receiver. Covers 50kHz-30MHz; CW, SSB, AM and optional FM modes. 50 fully-tunable memory channels store frequency, mode and filter selection, two additional memories provide band edge information used in scanning. Multi-function scanning (memory, band selectable group, priority) with carrier or time-delay resume enable searching for new stations, or scanning within a known band. Twin 12/24 hour programmable clocks with on/off-timer and sleep-timer. CAT system for PC control 9.3"wx 3.6" h x 9.5"d, 6.6 lbs **CALL**

SANGEAN



SANGEAN ATS-803A • 15 bands: covers 150kHz-281kHz, AM/FM broadcast (FM Stereo with headphones), and the 11, 13, 16, 19, 25, 31, 41, 49, 60, 75, 90 and 120m shortwave bands. Keypad or manual tuning with auto scan and 9 memories. LCD display, BFO for CW/SSB reception. Built-in 4" speaker and telescoping antenna. External antenna adapter, shoulder strap, AC converter, stereo headphones and short-wave handbook. Requires 4"D" and 2"AA" batteries (not included). 11 $\frac{1}{2}$ "w x 6 $\frac{1}{2}$ "h x 2 $\frac{3}{4}$ "d, 3 $\frac{3}{4}$ lbs **\$189⁹⁵**



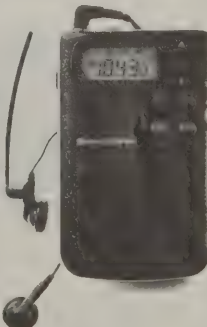
SANGEAN ATS-808 • 16 bands: Covers 150kHz-30MHz, AM/FM broadcast (FM stereo with headphones), and the 11, 13, 16, 19, 21, 25, 31, 41, 49, 60, 75, 90 and 120M shortwave bands. Five tuning methods: Keypad, manual knob or up/down tuning, auto-scan and 45 memory presets. Built-in 3" speaker, telescoping antenna. Protective pouch, stereo headphones and external antenna adapter. Requires 6"AA" batteries (not included). 4 $\frac{1}{2}$ "h x 7 $\frac{3}{4}$ "w x 1 $\frac{1}{2}$ " d, 1 $\frac{1}{2}$ lbs ... **\$189⁹⁵**



SANGEAN ATS-818CS World Band Receiver with programmable Cassette Recorder • Continuous AM coverage from 150kHz-30MHz plus FM 87.5-108MHz; FM stereo with headphones (not included). Tunes all SW bands from 120m to 11m. Five tuning methods: Direct frequency input; Auto scan; Manual scan; Memory recall; Rotary Dial. 45 memory presets, BFO for SSB & CW reception, AM wide/narrow filter, tone & RF gain controls, signal strength/battery indicator. Programmable recorder, play/record LED indicator, auto-stop feature. Dual time display for local and UTC time, adjustable sleep timer. Requires 7"AA" batteries; 3 for radio, 4 for back-up power. Includes AC adapter, external antenna adapter and shortwave handbook. 11 $\frac{1}{2}$ "w x 7 $\frac{3}{4}$ "h x 2 $\frac{3}{4}$ " d, 5 lbs **\$269⁹⁵**

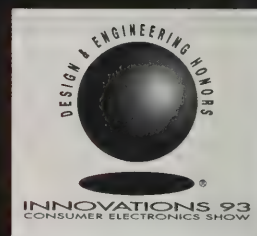
SANGEAN DT-200V • AM/FM Broadcast & TV band receiver

Compact, fits in shirt pocket or clips to belt. Covers AM/FM broadcast; FM Stereo with headphones plus the audio portion of TV channels 2 to 13. LCD display, pushbutton up/down tuning, auto-scan and 19 memory presets. Built-in speaker, belt clip, stereo headphones. Requires 2 "AA" batteries (not included). 4 $\frac{1}{2}$ " x 2 $\frac{3}{8}$ " x $\frac{3}{4}$ ", only 5 oz. **\$69⁹⁵**



THE GRUNDIG SATELLIT 700

GRUNDIG



WORLD RECEIVER

THE ULTIMATE IN DIGITAL TECHNOLOGY

SATELLIT 700 — the latest and most sophisticated portable world receiver available! Featuring phased lock looped synchronous digital circuitry for seamless AM, FM, LW, and SW reception from 1.6 – 30 Mhz. From London to Lithuania to San Francisco, tune in the world easily with its unique digital or manual tuning. With Grundig, the world is at your fingertips.

GERMAN ENGINEERING ANNOUNCES A BREAKTHROUGH IN MEMORY

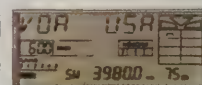
The unprecedented 120 factory pre-programmed frequencies for worldwide reception makes tuning into the world's shortwave radio broadcast almost as simple as touching a button. You also have 512 alpha numeric user-programmable

GRUNDIG SATELLIT 700	
AORC model	
Code	Frequency
0.1	European Radio
0.2	European Radio
0.3	European Radio
0.4	European Radio
0.5	European Radio
0.6	European Radio
0.7	European Radio
0.8	European Radio
0.9	European Radio
1.0	European Radio
1.1	European Radio
1.2	European Radio
1.3	European Radio
1.4	European Radio
1.5	European Radio
1.6	European Radio
1.7	European Radio
1.8	European Radio
1.9	European Radio
2.0	European Radio
2.1	European Radio
2.2	European Radio
2.3	European Radio
2.4	European Radio
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7.7	European Radio
7.8	European Radio
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8.0	European Radio
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8.8	European Radio
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9.0	European Radio
9.1	European Radio
9.2	European Radio
9.3	European Radio
9.4	European Radio
9.5	European Radio
9.6	European Radio
9.7	European Radio
9.8	European Radio
9.9	European Radio
10.0	European Radio

memory positions which can be expanded to 2048 memory positions so you can build your own favorite-station radio archive!

WORLD CLASS RECEPTION

With PLL Tuning, selectable wide/narrow band width filter, and a redesigned and vastly improved synchronous detector, the Satellit 700 offers unparalleled reception, sensitivity and selectivity. The 700 comes equipped with a built-in NiCad battery charger, the Grundig shortwave frequency guide, and a one-year warranty covering parts and labor. If you have any questions regarding the Satellit 700, please call our shortwave Hotline and talk to the experts, U.S. (800) 872-2228, and Canada (800) 637-1648 (9AM to 4PM PST).



THE GRUNDIG SATELLIT 700

GRUNDIG



DIGITAL WORLD RECEIVER

THE ULTIMATE IN DIGITAL TECHNOLOGY

Overall: Best of the Compacts

"In all, the Grundig Yacht Boy 400 is the best compact shortwave portable we have tested."

— Lawrence Magne

Editor-in-Chief, Passport to World Band Radio

Shortwave, AM and FM

- PLL synthesized tuning for rock-solid frequency stability.
- Continuous shortwave from 1.6-30 megahertz, covering all existing shortwave bands plus FM-stereo, AM and Longwave.
- No tuning gaps in its shortwave receiver means that all frequencies can be monitored.
- Single sideband (SSB) circuitry allows for reception of shortwave long distance two-way communication such as amateur radio and military and commercial air-to-ground and ship-to-shore.

Memory Presets

- 40 randomly programmable memory presets allow for quick access to favorite stations. The memory "FREE" feature automatically shows which memories are unoccupied and ready to program.

Multi-function Liquid Crystal Display

- The LCD shows simultaneous display of time, frequency, band, automatic turn-on and sleep timer.

Clock, Alarm and Timer

- Liquid crystal display (LCD) shows time and clock/timer modes.
- Dual alarm modes: beeper & radio.
- Dual clocks show time in 24 hour format.
- Sleep timer programmable in 15 minute increments to 60 minutes.

If you have any questions regarding the YB-400, please call our shortwave Hotline and talk to the experts, U.S. (800) 872-2228, and Canada (800) 637-1648 (9am to 4pm PST).

TAKE THE WORLD ON THE ROAD

WORLDWIDE RECEIVERS FROM ICOM

IC-R1 HANDHELD RECEIVER

The smallest wideband handheld available today, the IC-R1 continuously covers 100kHz-1300MHz with AM, FM and wide-band FM modes. This tiny receiver goes anywhere you go, measuring just 1.9" W x 3.0" H x 1.4" D.

Easy operation is a snap with the IC-R1's Dual Frequency Selection (direct keyboard and rotary tuning), 100 memories and a 24-hour clock complete the world's smallest full-featured handheld receiver.



IC-R100 MOBILE RECEIVER

Whether you're at home or in your car, the IC-R100 gives you continuous coverage from 100kHz-1056MHz in AM, FM and wide-band FM modes. Monitor VHF air and marine bands, emergency services, government and amateur stations. 421 fully programmable memory channels, multiple scanning systems and a built-in 12-hour lithium battery.



IC-R72 BASE RECEIVER

The IC-R72 continuously receives 100kHz-30MHz in 888 AM and CW modes with exceptionally high sensitivity. An optional USB provides FM reception. The IC-R72 incorporates a noise blanker, two scanning systems, internal backup battery and built-in clock with Icom's DDS System. The IC-R72 boasts a 100dB wide dynamic range while an easy-to-access keyboard provides convenient programming versatility... superb for storage-intensive.



See our complete line of quality receivers at your local authorized Icom dealer.

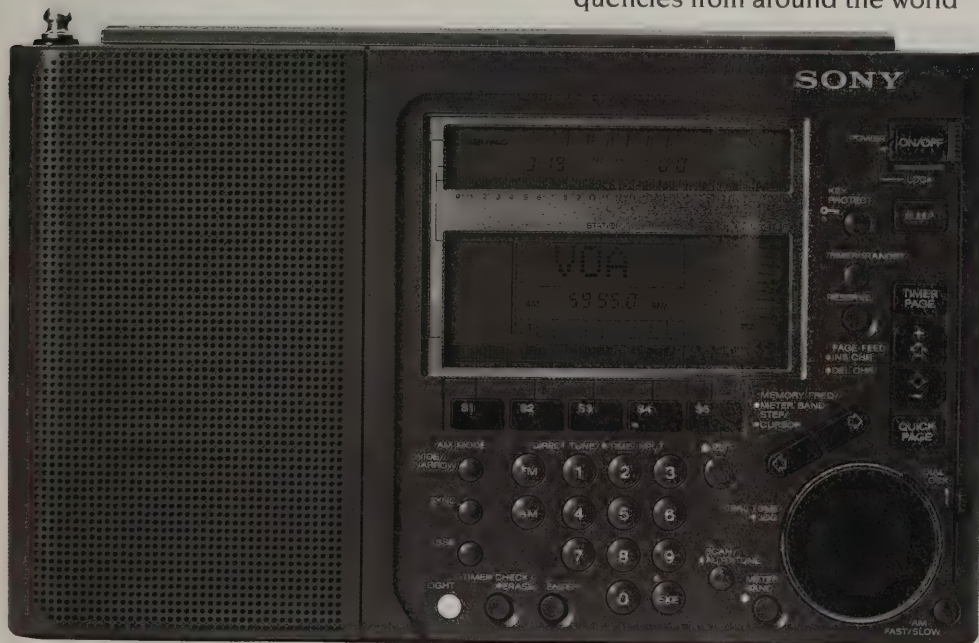
CORPORATE HEADQUARTERS
ICOM America, Inc., 2380-116th Ave. N.E.
Bellevue, WA 98004
CUSTOMER SERVICE HOTLINE
(206) 454-7615
CUSTOMER SERVICE CENTERS
18102 Skyway South, Suite 52-B
Irvine, CA 92714
3071 - #5 Road, Unit 9
Richmond, B.C. V6X 2T4 Canada
All stated specifications are subject to change
without notice or obligation. All ICOM radios
significantly exceed FCC regulations limiting
spurious emissions. The ICOM logo is a registered
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For full details, call the Icom Brochure
hotline at 1-206-454-0633

 **ICOM®**

SONY

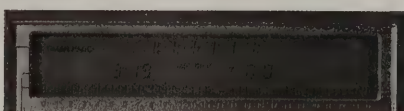
Shortwave Radios from **AES®** the Shortwave Experts!



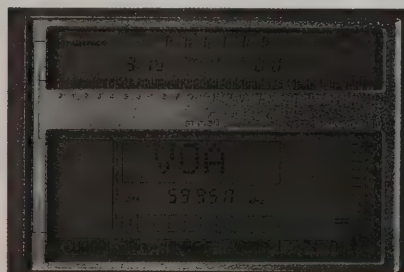
ICF-SW77



THE ICF-SW77 CAN MEMO-
RIZE THE NAMES AND CALL
NUMBERS OF UP TO 162
FREQUENCIES, PROVIDING
INSTANT ACCESS TO YOUR
FAVORITE STATIONS.



THE ICF-SW77'S ADVANCED CIRCUITRY TURNS THE
DESIRED TUNING FREQUENCY ON AND OFF AUTOMATI-
CALLY AT PRE-SELECTED TIMES.



ADVANCED SONY FEATURES LIKE STATION-NAME TUN-
ING, WORLD TIME CLOCKS AND VARIABLE TIMERS MAKE
LISTENING TO YOUR FAVORITE WORLD BAND STATION
EASIER AND MORE ENJOYABLE THAN EVER BEFORE.



YOU CAN RECORD RADIO BROADCAST BY CONNECTING A
TAPE RECORDER TO THE ICF-SW77'S TAPE REC OUT JACK.

ICF-SW77

Presenting a high-performance Sony World Band Receiver™ radio that's been designed for the seasoned shortwave radio enthusiast.

As the computerized cousin of the ICF-2010, the ICF-SW77 adds the convenience of station name tuning to performance features like synchronous detection circuitry.

A newly developed EEPROM memory chip holds preset frequencies from around the world

without battery back-up. Sony engineers have pre-programmed this chip with the most-used frequencies from 27 broadcasters. The large lighted LCD display shows frequency along with a 6-character station name, like VOA, BBC and CHINA.

The SW77 boasts up to 100 station names with 162 frequency presets capability, providing an "electronic program guide" to keep track of important broadcasts. A world time program display shows what time of day each frequency can be heard.

Station name tuning enables you to recall radio frequencies by the name of the broadcaster.

10-key Direct Access™ tuning lets you key in desired stations directly by frequency number.

Electronic rotary manual tuning enables manual tuning with approximately 0.05 KHz precision in MW mode.

Automatic scan tuning provides a 1.5 second glimpse of each active station on the band until you find one you like.

Five-event programmable timer enables you to automatically receive a station at a desired time.

Synchronous detection circuitry reduces radio station fading and annoying beat frequency interference from adjacent stations.

Other features make the ICF-SW77 an exceptionally versatile receiver. Single Side Band and FM stereo reception are available, as well as a signal strength meter and variable AM selectivity.

ALWAYS Excellent Service

Order by Phone • Use your Credit Card
for Same Day Shipping!

SONY

Home Stereo, Auto Sound,
Portable Sound, Television, Big
Screen TV, Video Cameras,
Camcorders available from...
AUDIO PLUS – See page 155

ICF-SW55

From the moment you pick up the ICF-SW55 World Band Receiver™ radio, you are in contact with a world of quality, features, high-tech sophistication, and the little extras that are pure Sony.

Our unique station name tuning is used on this unit to provide easy access to the most listened-to broadcasts. 125 frequencies and 25 station names can be programmed to make listening to the world an easy task.

Station name tuning enables you to recall radio frequencies by the name of the broadcaster.

10-key Direct Access™ tuning lets you key in desired stations directly by frequency number.

Electronic rotary manual tuning enables manual tuning with approximately 0.1 KHz precision in MW mode.

Automatic scan tuning provides quick access to active stations in each band.

Five-event programmable timer enables you to automatically receive a station at a desired time.

World travelers will be impressed by the exciting array of extras found on the SW55. The sleep timer turns the radio off after 15, 30, 45 or 60 minutes, and a world time clock keeps track of both local and universal time. Finally, the SW55 enables you to receive FM stereo or Single Side Band transmissions, and has a narrow/wide AM selectivity switch. Power it up, sit back, and let the ICF-SW55 take you on a world tour.

SONY

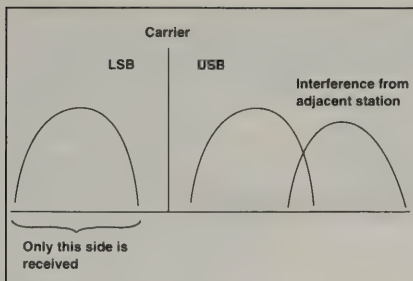
Shortwave Radios
*from **AES®** the
Shortwave Experts!*



ICF-SW55



BEIJING



WHAT IS SYNCHRONOUS DETECTION?

THERE ARE TWO BIG PROBLEMS IN AM RECEPTION: DISTORTION DUE TO FADING, AND INTERFERENCE FROM ADJACENT STATIONS. SYNCHRONOUS DETECTION IS EFFECTIVE IN SOLVING THESE PROBLEMS. THE CIRCUIT AUTOMATICALLY SELECTS EITHER THE UPPER OR LOWER SIDEBAND, WHICHEVER IS FREE OF ADJACENT CHANNEL DISTORTION TO PERMIT CLEARER RECEPTION OF (LW, MW, AND SW) BROADCASTS. THE SYNCHRONOUS DETECTOR CIRCUIT WILL ALSO SYNTHESIZE A CLEAN CARRIER SIGNAL TO COMPENSATE FOR ONE AFFECTED BY SIGNAL FADING.

ICF-2010

Here's the World Band Receiver™ radio that's been earning accolades the world over. Critics have hailed this uncompromising overachiever as the top-performing travel-weight portable. Bursting with high-tech performance and convenience features, the ICF-2010 World Band Receiver™ radio will respond to your every command.

The world's most accurate tuning system, dual PLL quartz frequency tuning, teams with five helpful tuning systems to ensure that you'll find your station with ease and hold onto it until you decide to change it. To reach the station of your choice, you may opt for:

10-key Direct Access™ tuning lets you key in desired stations directly by frequency number.

Automatic scan tuning provides a 1.5 second glimpse of each active station on the band until you find one you like.

Electronic rotary manual tuning enables manual tuning with approximately 0.1 KHz precision in MW mode.

Clear, unwavering reception is provided by synchronous detection circuitry with selectable side band, which practically eliminates adjacent-channel interference and fading, a common disturbance in world band signals. Added capabilities include 2-position AM selectivity mode, battery check, SSB reception and AIR band.

Among the many useful features are the built-in microprocessor quartz clock with standby and alarm capability, 4-event pro-



ICF-2010

32-station memory tuning recalls even hard-to-find stations at the press of a button.

Memory scan tuning lets you briefly sample each of your preset stations.

grammable timer to automatically turn the receiver on and off, 65-minute sleep timer and lighted LCD display providing digital readout of station selected. And at under 4 pounds, it's still plenty small enough to disappear into your suitcase.

Expect the Best from...

SONY

and **AMATEUR ELECTRONIC SUPPLY®**

ICF-SW1S

Taking off for an exotic foreign locale? Then you'll want to remember to leave a tiny spot in your suitcase for the ICF-SW1S World Band Receiver™ radio, with a high-performance active antenna kit. Few mini-portables offer the combination of range, versatility, convenience and space-age technology that Sony engineers have ingeniously packed into this little dynamo. It even comes with its own carrying case.

But don't be misled by its audio-cassette size (it's all of 4-3/4"W x 2-7/8"H x 15/16"D) and featherweight (just 8.1 ounces with batteries). You have full band access, including AM (LW, MW, SW) and FM Stereo (through the supplied headphones). Built-in features include a surprisingly large LCD frequency readout for viewing selected stations, key protect switch to prevent accidental switching of tuned-in stations and world time clock with alarm functions and sleep timer.

Since Sony engineers don't know the meaning of compromise, they've incorporated the world's best tuning technology, drift-free PLL quartz frequency synthesized tuning. And to access it, they've supplied a full complement of tuning options, including:

10-key Direct Access™ tuning lets you key in desired stations directly by frequency number.

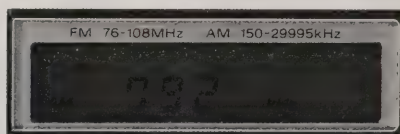
10-station random memory tuning recalls even hard-to-find stations at the press of a button.

Manual tuning allows you to search through the band until you find the station of your choice.

Automatic scan tuning provides a 1.5 second glimpse of each active station on the band until you find one you like.

Joining the radio inside the handsome and rugged carrying case are an amplified antenna with controller, a worldwide AC adapter that adjusts automatically to local current and, for your private listening pleasure, high-quality, featherweight Fontopia® stereo headphones.

No doubt about it, this little powerhouse is pure Sony, through and through.



AT THE HEART OF THE ICF-SW1S IS AN ACCURATE, DRIFT-FREE PLL SYNTHESIZER TUNING SYSTEM WITH BUILT-IN MICROCOMPUTER.



THE ICF-SW1S'S HARD-COVER TRAVEL CASE INCLUDES AN ANTENNA, AC ADAPTER WITH VOLTAGE SELECTOR, AND FONTOPIA® DYNAMIC EARPHONES TO ENHANCE YOUR LISTENING PLEASURE.



ICF-SW1S

Call on the Experienced Shortwave People at **AES®** for

SONY®

ICF-SW33

Sophisticated tuning technology and ease of operation in spite of its high-tech design, are the hallmarks of this portable. Measuring only 6-5/8" x 3-3/4" x 1 1/2" and weighing only about 14 oz, the SW-33 places 13 bands at your command including— FM (stereo with headphones) medium wave AM and Worldbands 3700-4200, 4650-5150, 5800-6300, 6950-7450, 9375-10000, 11525-12150, 13375-14000, 14975-15600, 17475-18100, 21230-21950 and 25475-26100MHz.

Expect superior reception quality, with excellent adjacent-channel rejection.

ICF-SW800

Leave it to Sony to design a world band receiver that incorporates a totally unique feature—frequency preset cards to instantly pinpoint the world's most listened-to stations.

Armchair globe-trotters will revel in the fast, convenient tuning afforded by the ICF-SW800 World Band Receiver™ radio's easy-to-use card tuning system. To access a desired station, you simply insert a card—choose from Deutsche Welle, Voice of America and the BBC—into the designated

slot. Major frequencies of each broadcast station have been preset by the factory. Then, to access the frequency that's right for your listening time and area, simply touch the preset number of the station you wish to listen to.

You can use the preset cards to access the accurate, drift-free quartz-controlled PLL synthesizer system in four ways:

Station card tuning provides quick access to pre-programmed stations by inserting a memory card on the unit.

Direct tuning allows you to directly input the station frequency you wish to access.

Manual tuning allows fast station tuning across the bandwidth with 5 KHz step in SW reception.

Preset tuning lets you preset your favorite stations on a special memory card.

This Sony was created for anyone who wants the ultimate in advanced world band receiver radio features, and the utmost convenience, too.

ICF-SW33

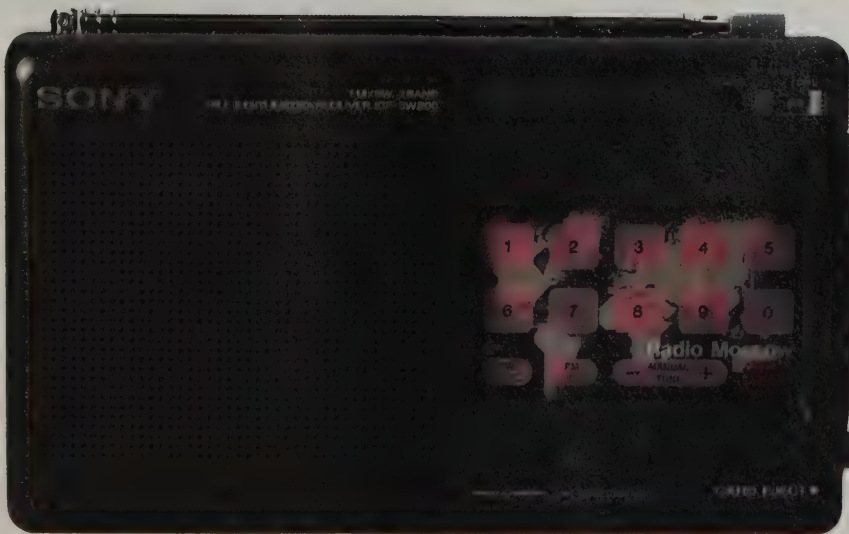
The Quartz controlled PLL (Phase Locked Loop) synthesizer tuning system using a microcomputer makes pinpoint tuning easy.

The SW-33 Includes an unusual clock that gives World Time and local time with a local city name displayed. You can preset up to 5 local times in the world for instant recall.

Pushbutton tuning—and the tuned frequency is digitally displayed to make searching of the desired station easier—17 stations can be preset in memory for instant recall.

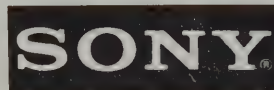
Quality sound from built-in speaker—and use of News/Music switch Convenient sleep timer allows the SW-33 to be turned off automatically after about 60 minutes.

Totally portable—requires only three (size AA) batteries.



ICF-SW800

Call on the Experienced Shortwave People at AES® for



ICF-SW15

Sony's 9-band World Band Receiver™ radio packs superb technology into a portable traveling companion. The ICF-SW15 boasts the best sensitivity and interference-rejection capability in its class, thanks to special dual conversion superheterodyne signal circuitry. That means the station you select won't be bothered by an adjacent station, even one with a powerful signal.



ICF-SW15

An LED tuning indicator makes receiving distant stations easy and precise. Soft-touch band selectors let you switch between the 7 SW, MW (AM) and FM bands with the press of a button.

Full-range, dynamic sound is provided by a 2.5" speaker, with tone selector for easy adjustment when you're tuned into music or news. Shortwave bandspread tuning enables precise tuning to desired frequencies, expressed in large, easy-to-read numerals.

Whether relaxing comfortably at home, or preparing for an overseas business trip, the compact design 6-1/4"W x 3-3/4"H x 1-1/4"D and superb performance of the SW15 will make your shortwave listening experience an unqualified pleasure.

CRF-V21

This Sony World Band Receiver™ radio adds the impressive capabilities of facsimile printout and detailed visual display.

A built-in high resolution thermal printer enables you to obtain a hard copy of world weather faxes, charts, maps and radio teletype (RTTY) broadcasts. You can even receive and print weather data transmissions from satellites.

The truly state-of-the-art CRF-V21 will deliver clear world band broadcasts over a wide range of frequencies. Any radio buff will appreciate the long list of helpful tuning features. Triple Loop PLL synthesized tuning enables drift-free radio reception. Electronic rotary manual tuning provides precise location of frequencies to 0.01 KHz.

421-station memory tuning with station name labeling

recalls your favorite stations at the press of a button, and locks them in for clearest reception.

Spectrum analyzed tuning

affords a graph of signal strength within the preset frequency range on the display for visual location of active frequencies.

Activity search automatically monitors the activity and signal strength of specified frequencies over a 12-minute or 12-hour period.

Built-in thermal printer provides a high-resolution printout of Radio Fax, satellite fax* and RTTY transmissions.

Boaters and outdoorsmen alike can reap the benefits of the portable information provided by the CRF-V21. The unit can be powered by the supplied rechargeable battery pack.

What's more, Sony engineers endowed this workhorse portable



* GOES, GMS and Meteosat reception available with ANP1200 Parabolic Satellite Antenna.

with our world-famous high-tech synchronous detector circuit with selectable sideband that cuts adjacent-channel interference and distortion.

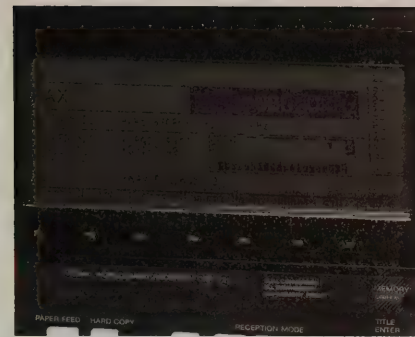
With perfection as their goal, Sony engineers even built into the amazing CRF-V21 a timer to program up to eight different day/time and station selections per week, and what critics have hailed as the "world's best tuning knob, a pure delight."

SONY

CRF-V21 World Band Receiver

**CLOSEOUT
\$1299⁰⁰**

Our last Catalog Price was: **\$3999⁰⁰**
Hurry, Order Now...Quantity Limited!



ACTIVE SEARCH CHECKS STATION ACTIVITY FOR A DESIGNATED MEMORY PAGE OVER A 12-MIN. OR 12-HR. TIME PERIOD



NEW from **SONY®**

IPS-760 PYXIS

Global Positioning System (GPS) Receiver

The IPS-760 is the only Portable GPS system in the marketplace that takes full advantage of small IC - Cards. This successful concept creates flexibility and versatility in utilizing Graphical Database. IC-Cards for applications such as Aviation and Marine.

The IPS-760 takes full advantage of features normally common in the larger fix-mount GPS systems. The 4.5" display encompasses a Back-lit Super-Twist Graphic capable of displaying Graphical Information as well as displaying all Navigation Information on One Screen.

The IPS-760 incorporates the most sophisticated receiver within a portable GPS system. The IPS-760 is a true 8-Channel Parallel Receiver that tracks up to 8 different satellites simultaneously for optimal performance.

Because of the *IC-Card Feature*, the IPS-760 provides communication software flexibility utilizing the standard NMEA-183 protocol for the marine industry or RS-232C for the personal computers. Not only can the IPS-760 share its information, it can receive information.

The IPS-760 is truly in a league of its own with the advantage of the 4.5" Back-lit Graphic LCD Display. The IPS-760 Standard Software allows the user to illustrate the LAT/LON Grid Lines as well as any stores' points, routes or current track. This is really an advantage with the Aviation and Marine Graphic IC-Cards that will display your current position in reference to the database points; a true moving map display.

Specifications

General: 1575.42 MHZ, C/A code, single frequency (LI) operation

Tracking: 8-Channel, parallel receiver

Update Rate: 1 Second

Acquisition Time: 1 min TTFF (Time To First Fix)

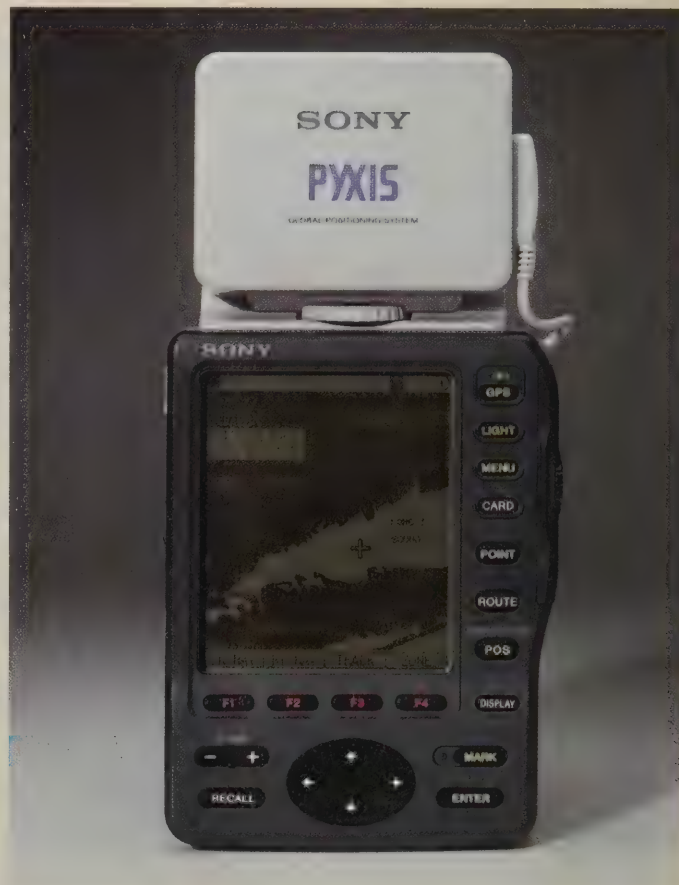
Memory Capacity: 1000 waypoints, 50 Reversible Routes

Display: 4.5" Backlit Graphic LCD (256 x 320 Dot-matrix)

Dimensions: (WHD): 4.2"x 8.9" x 1.3"

Weight: 28 oz., (including 6-AA batteries)

Supplied Accessories: Soft Carrying Case, Floatable Belt, Battery Magazine, 3 meter Antenna Extension Cable, Utility Key



Features and specifications are subject to change without notice. Non-metric weights and measurements are approximate. Sony and Pyxis are trademarks of Sony. Warning: GPS signals are controlled, maintained and operated by the Department of Defense of the United States. Without notice, the DOD can change the characteristics of the signal, which will degrade the accuracy of this unit. Use Sony's IPS-760 at your own risk.

In Stock ... Order today from AES® ... the Sony Experts!

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for Same Day Shipment!**

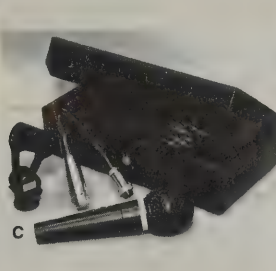




Microphones • Headsets • Accessories



A rugged, lightweight boomset designed for long wearing time during contests, etc. The headband has detents on each side for adjustment, and is fully padded for comfort. The vinyl earpads are also heavily padded, seal out noise, and are removable for washing. The flexible microphone boom adjusts to about any location and folds up for storage. Specify HEIL HC-4 or HC-5 mic cartridge (below) **\$122⁰⁰**
Adapter cables for ICOM, KENWOOD or YAESU transceivers **ea. \$13⁰⁰**



BM-10 Dual Boomset (A) • A specially designed communications boomset with dual headphones and microphone with choice of HEIL cartridges. Weighing only 8 oz., the headpieces are soft and comfortable for prolonged use in contests and DXpeditions. Due to the special rim design of the earphone, they limit external noise—so desirable in multi-op contest setups. The entire boomset is extremely versatile allowing removal/adjustment of each head piece or microphone boom to suit your needs, yet it remains sturdy to meet the demands of extended hours of operation. Specify HC-4 or HC-5 microphone cartridge (described below) . **\$71⁹⁰**

BM-10 Boomset • wired for ICOM, KENWOOD or YAESU (specify), also specify HC-4 or HC-5 microphone cartridge (described below) **\$85⁹⁰**

BM-5 Single Boomset (B) • A single headphone version of the BM-10. Great for mobile use or for those that desire just one side—allowing for monitoring other activity. Specify HC-4 or HC-5 microphone cartridge (described below) **\$64⁹⁰**

BM5 Single Boomset • wired for ICOM, KENWOOD or YAESU (specify), also specify HC-4 or HC-5 microphone cartridge (described below) **\$69⁹⁰**

HM-10 Microphone (C) • A hand-held studio-style microphone with desk stand or boom mount options and choice of HEIL cartridges. Operate PTT or VOX, it's designed to work with virtually any late model transceiver. Specify for ICOM, KENWOOD or YAESU, also specify HC-4 or HC-5 cartridge (below) **\$85⁹⁰**

HM-10 DUAL • Amateur Radio's *ultimate* microphone. Similar to the HM-10 but has *both* HC-4 DX element and HC-5 Full Range microphone cartridges built-in, and switch selectable. Specify for ICOM, YAESU or KENWOOD **\$131⁹⁰**

TB-1 Table Base (D) • for HM-10 microphones. 6" high, heavy (2 lb., 10 oz. cast base with non-skid cork feet. *Pictured with microphone, not included* **\$12⁹⁵**

MA-1 Boom and Clamp Assembly (E) • for HM-10 microphones. Boom is adjustable 6" to 24". Attaches to desk or shelf, or hangs from ceiling. Swivels 360°, and places HM-10 or DUAL TEN microphone exactly where needed. Use FS-1 footswitch for convenient, hands free PTT operation **\$49⁹⁵**

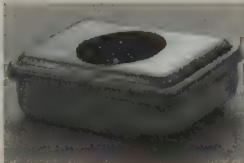
FS-1 Foot switch (F) • Foot control of PTT function of any transmitter. Non-skid rubber pad, top and bottom, supplied with 7 ft. cable and 1/4" phone plug. **\$24⁹⁵**

HEIL – Replacement Microphone Cartridges

Most communications microphones today were designed for public address – not for SSB, with the frequency response needed for getting through pile-ups, or providing maximum voice clarity. If you aren't satisfied with the “sound of your station” you can solve this problem by replacing the cartridge in your microphone with a Heil Key Element for a dramatic improvement. It's tiny in size, and easily replaces existing cartridges in most microphones.

HEIL HC-4 – The DX Dream Machine

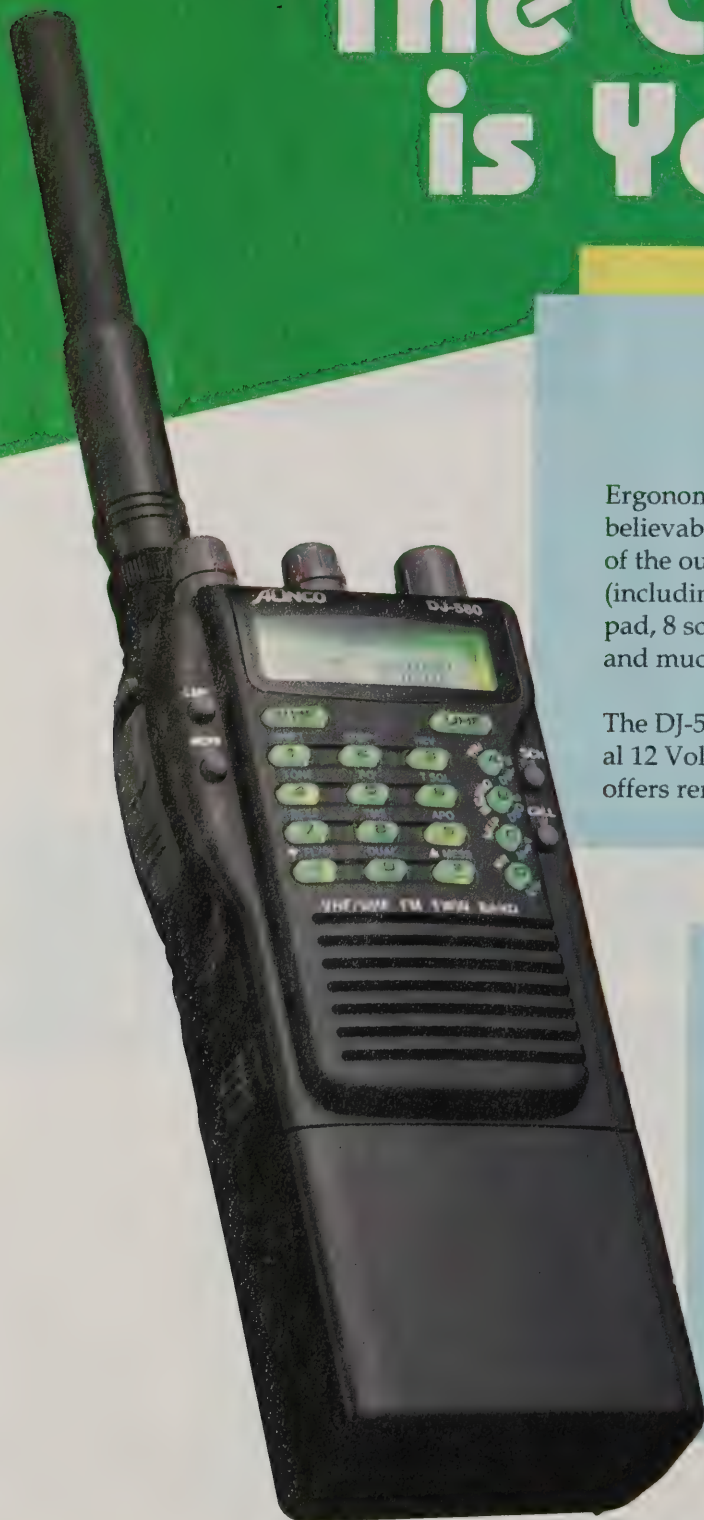
The replacement microphone cartridge for Contest and DX operators. It's engineered with a high-pitched, pile-up busting frequency response of 500Hz–3800Hz with a 10dB peak at 2000Hz, and a sharp 12dB per octave roll off at 500Hz. Provides your rig with excellent clarity and more punch for getting through the pile-ups. Impedance: 2kΩ @ 1000Hz – works well into low (500-600Ω) and medium (2k-5kΩ) inputs. Cardioid pattern. Size: .530" d x .850" w x .310" h... **\$28⁹⁰**



HEIL HC-5 – The Key Element

The replacement microphone cartridge for everyday Rag Chewing. Engineered with full range articulation and maximum voice clarity. Not mushy, bassy paging-type audio, but very clear, easy to understand SSB audio. Response: 350Hz–4000Hz. with a sharp roll-off under 300Hz and above 3100Hz with a peak at 2100Hz. Impedance: 2kΩ @ 1000Hz – works well into low (500-600Ω) and medium (2k-5kΩ) inputs. Cardioid pattern. Size: .530" d x .850" w x .310" h... **\$28⁹⁰**

The Choice is Yours



DJ-580T

Loaded Package

Ergonomic design, combined with excellent sensitivity and unbelievably great sound put the DJ-580T in a class by itself. Some of the outstanding features include extended receive range (including AM aircraft), Cross-Band Repeat function, backlit keypad, 8 scanning features, CTCSS encode/decode, DSQ Paging, and much more.

The DJ-580T will deliver a solid 5 Watts of power with the optional 12 Volt battery, and our EMS-8Z Remote Speaker Microphone offers remote control of Memory Channels and Scanning features.

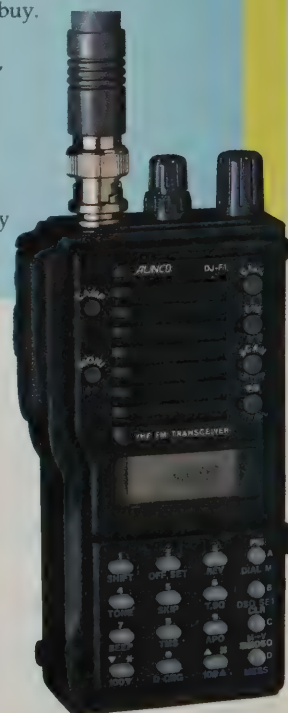
DJ-F1T / DJ-F1TH

Sometimes Smaller is Better

Rugged construction and the most advanced technology make the DJ-F1T the best 2-Meter value available. The DJ-F1TH (High Power version) is the smallest 5-Watt rig you can buy.

Both of these models feature 40 memory channels, extended receive range (including AM aircraft), CTCSS encode, Superior audio quality, "battery save" function, and a backlit keypad.

All this is packed into a cast aluminum frame and tough poly-plastic case that has set a new industry standard for durability.



Better Products, Better Service.
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REMOTE CONTROL JUST GOT EASIER



Full remote control
by a transceiver.

DR-600T *New*

We invented the remote control transceiver in 1990, and we are redefining it today. Hams have been asking for a high-power remote-control rig that is more flexible, more powerful, and less complicated: This is it.

Standard features include FULL remote control with or without a security code. The user can exercise control over both bands from one control channel. This means that a single band HT is all that is required to take full advantage of this feature. The DTMF decoder board that makes all this possible is now factory installed as standard equipment. Also included is DSQ for private paging, autodialer channels, direct frequency input from microphone, CTCSS encode, and odd splits on every memory channel.

This rig features state of the art sensitivity and selectivity, including Airband reception capability with a simple modification. For security and convenience, the head can be mounted separately from the main unit with the optional separation kit.

**Check out the affordable technology of the 90's.
Check out ALINCO.**

Alinco New Warranty program

One Full Year, Parts and Labor Factory Warranty from Alinco Electronics.
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Specifications and features are subject to change without notice or obligation.

DYNAMIC DUO



DR-130T

Works Hard / Runs Cool

ALINCO's newest 2-Meter mobile, the DR-130T, packs a big punch. This compact radio delivers 50 Watts of cool running power, and offers the durability and reliability that Hams have come to expect from ALINCO.

Standard features include 50 CTCSS Tones, Programmed Memory scan, Programmable "Time-Out" Timer, CTCSS Encode, and others. With the optional EJ-19U plug-in module, 100 memory channels are available. All memory channels can store "odd-split" frequencies, and also store CTCSS Encode/Decode status.

NEW

DJ-180T

Clearly Superior

Ergonomic, rugged design, combined with excellent sensitivity and great sound make this the radio of choice for demanding operators.

This rig comes standard with CTCSS encode and decode. Ten memory channels come standard, and the unit can be upgraded to 50, or even 200 Memory Channels with optional plug-in chips.

Odd Splits! This radio can store repeater offsets from 0 to 15.995 MHz. A different offset can be stored in each memory channel, and most other functions can also be stored independently in each memory channel.

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STANDARD®

C158A

Incredible Low Price



It's the Deluxe "Standard" C158A 2 Meter Talkie:

- Very, very affordable • Convenient size • Powerful • Rugged construction
- 5 Watts output at 12 volts • Direct 12 volts – no expensive adapter required
- 700mA 7.2v NiCad included (a beefy, long-lasting pack, NOT like some radios)
- 21 memories (20 regular memories + 1 call) • Dual watch • Extended receive
- 0.158uV receive sensitivity • Encode & decode CTCSS subaudible tone built-in
- 7 types/ 3 modes of scan • Even CTCSS scan • DTMF paging/coded squelch
- Automatic power-off mode (selectable) • Modifiable for MARS/CAP transmit
- Other H/Ts that share batteries & most accessories with the C158A:

C228A (2m/220), **C528A** or **C558A** (2m/440), and **C628A** (440/1.2GHz)

Your Best Bet for Standard is AES®...
"We Service what we Sell!"



STANDARD®

C558A

Elegance, Balance & Twin Band Performance



Deluxe "Standard" C558A 2m/440 Twin-Band features include:

- Super small and powerful • Rugged construction • 5 Watts out at 12 volts
- 700 mAh 7.2 volt NiCad included • Modifiable for MARS/CAP transmit
- 40 memories on each snap-in chip • Optional 200-memory chips available
- Extended receive: 115-174 MHz (including AM aircraft) & 400-474 MHz
- 0.158uV rx sensitivity • Encode & decode CTCSS subaudible tone built-in
- Full-duplex crossband transmit and receive • DTMF paging/coded squelch
- 7 types/ 3 modes of scan • Even CTCSS scan • Each band scans separately
- Convenient crossband repeat mode: even preset levels & selectable hang time
- Pushbutton control of crossband repeat • Also built-in: 1750Hz tone burst
- Other Twin Band H/Ts that share batteries & most accessories with C558A:

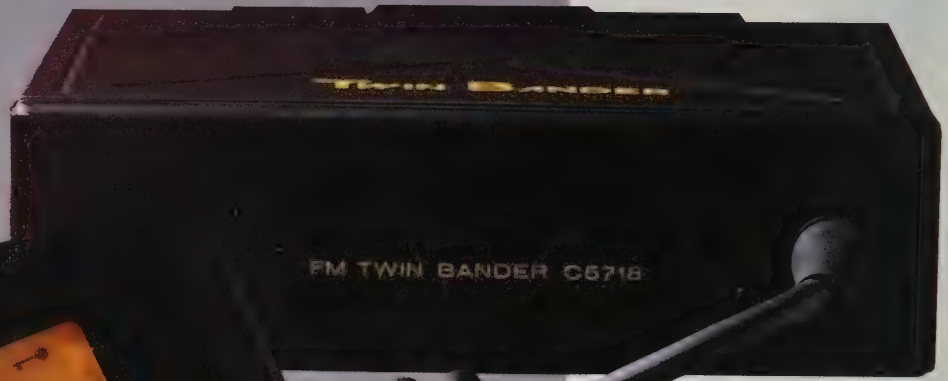
C228A (2m/220), **C628A** (440/1.2GHz), and **C528A** (inexpensive 2m/440)

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For further info call • 1-312-763-0081

Standard is the world's largest manufacturer of VHF-UHF Amateur Radio equipment!

WHAT TWIN-BAND RADIO'S SPEAKER-MIC DISPLAYS BOTH BANDS WHILE DELIVERING UP TO 50 WATTS?

The Standard C5718DA of course; the smallest, lowest price twin-band mobile radio that delivers all the features. Operate the C5718DA from its optional snap-on front panel with twin frequency display (CRC5700) or mount it under a seat or even in the trunk using the optional extension cable (CAW571 or CAW572).



- Unsurpassed intermod rejection.
- Built in Antenna Duplexer.
- Dual-frequency receive; two VHF, Two UHF, or VHF/UHF.
- Frequency Range: Receives 110-199.995 MHz (including AM aircraft) and 250-499.995 MHz.
- 50 Watts 2M, 40 Watts 70cm (3W Low, 10W Medium selectable)
- Memories: 40 memories (20 per band); stores frequency, offsets and CTCSS tones.
- 200 memory channel option, CMU182.
- CTCSS Encode/Decode standard.
- Frequency steps, 5, 10, 12.5, 15, 20, 25, 50 and 100 Khz.
- Full Duplex cross band operation with CTCSS tones.
- Paging/Coded squelch.
- DTMF autopatch dialing, 10 memories per band, 15 digits.
- Eight kinds of scan, including priority and CTCSS.
- Back-lit Keypad and Display
- Auto mute opposite band, three settings (-6, -12 and -18dB).
- Cooling fan built-in.
- Size: 5.51"W 1.57"H 5.31"D
- Weight 2.2 lbs
- Mobile bracket and power cord (2M) included.
- MARS and CAP modification available (permit required).

STANDARD PIONEERS ANOTHER FIRST!! THE C5718DA IS PACKET READY.

Designed with packet in mind. Out-of-the-box high-speed, 9600 baud, interface for both VHF and UHF bands. Just connect your TNC to the C5718DA and you're on the high speed packet network. Also, operates at 1200 and 2400 baud equally well.



OPTIONAL ACCESSORIES

CRC5700 removable front panel with twin frequency display.
CAW570 split cable for mic.
CAW571 2M mic extension cable.
CAW572 4M mic extension cable.
CAW573 2M extension cable for the front panel (CRC5700).
CAW574 4M extension cable for the front panel (CRC5700).
Additional accessories available from your dealer.



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to stock **STANDARD®** products for *Prompt Shipment*, and for *Service after the Sale.*



STANDARD®

C528A



Affordable deluxe TwinBand H/T with 2 meters & 440MHz

Deluxe "Standard" C528A Twin-Band features include:

- 5 Watts output at 12 volts (direct 12 volts – no expensive adapter required)
- 700 mAh 7.2 volt NiCad included • Automatic power-off mode (selectable)
- Over 40 memories (20 + 20 "limited" + 2 call + 2 vfo) • Battery save mode
- 0.158uV receive sensitivity • Encode AND decode CTCSS subaudible tone
- Extended receive (~130-170 MHz and 400-470 MHz) • Dual-receive mode
- Full-duplex crossband transmit and receive • DTMF paging/coded squelch
- Rugged construction • Separate volume and squelch controls for each band
- Each band scans separately: 5 modes + Busy + Pause (even CTCSS scan)
- Convenient crossband repeat mode (preset levels and selectable hang time)
- Pushbutton control of crossband repeat • Advanced design flexible antenna
- Other versions: C228A (2M / 220 MHz) and C628A (440 MHz / 1.2GHz)

For further info call **312-763-0081**

Standard is the world's largest manufacturer of VHF-UHF Amateur Radio equipment!

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Always in stock for Prompt Shipment, and backed with the famous AES Service after the Sale!



STANDARD®

CCR708A



VHF – UHF WIDEBAND 50.000 MHz TO 904.995 MHz SPECTRAL DISPLAY SCOPE COMMUNICATIONS TEST RECEIVER

- Continuous full coverage: 50–904.995 MHz.
- Receiving mode: Amplitude Modulation (AM), Narrow Band Frequency Modulation (N-FM), Wide band Frequency Modulation (W-FM).
- High precision/high stability PLL synthesizer.
- Microprocessor controlled.
- 100 storage channels for quick frequency reference— direct entry.
- 120 volt 60 Hz wall transformer included.
- Ideal for the service bench.
- Compact size— perfect for portable field use.
- Equipped with a LCD spectral display scope used for evaluating signal strength and tracking down nearby interfering signals.
- Extremely well built to industry standards.
- Its versatility/portability allows the technician to evaluate other equipment.
- Supplied with a telescoping antenna.

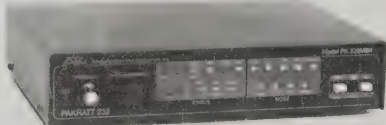
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AEA



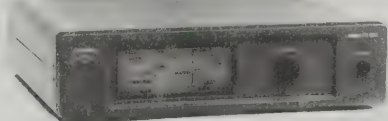
AEA PK-88 HF/VHF Packet TNC (left) • Packet controller features RS-232 interface at 300-9600 baud, standard VHF operation, 18K byte Pakmail Maildrop, lithium battery memory backup, AX.25/Level 2/Version 2, NET/ROM and KISS compatible, user friendly Host Mode software support. Cable included. 12-16V DC @ 550 mA. 7½" w x 6" d x 1½" h, 2¼ lbs. **\$134⁹⁵**

AEA PCB-88 PC Plug-in Data Controller (right) • Plugs into 8-bit expansion slot in IBM PC, XT, AT or compatible. Includes all features of the PK-88 and more! **\$164⁹⁵**

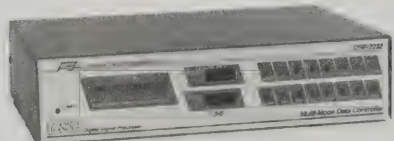


AEA PK-232MBX Multi-mode Data Controller • Interfaces any RS-232 compatible computer and any transceiver for all true digital modes: Packet, AMTOR/SITOR, Morse code, Baudot, and ASCII RTTY, WEFAK, NAVTEX, PACTOR and TDM reception. Both ports can handle HF and VHF. 18K byte PakMail Packet Maildrop, built-in FAX printer port, KISS compatible, Signal ID mode, built-in modem disconnect header. Host mode software support. Cables and comprehensive manual. 12-16V DC @ 800mA. 11" w x 8¼" d x 2½" h **\$319⁹⁵**

AEA AC-4 AC adapter • For PK-232, 12V DC @ 1A **\$32⁰⁰**

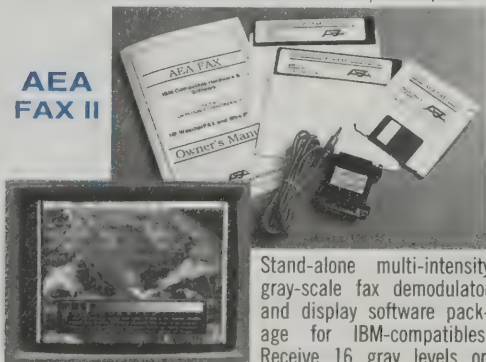


AEA PK-900 Multi-mode Data Controller • Incorporates all of the features of the PK-232, including PACTOR. Features simultaneous dual port HF/VHF operation. High performance bandpass filter-limiter discriminator design for greater throughput on HF. PACTOR memory ARQ and VHF packet DCD state machine circuit. Low cost 9600 baud plug-in option. Zero-crossing detector for gray-scale fax reception - optional software required. Cables included. 12-16V DC @ 1100mA. 11½" w x 11½" d x 3½" h, 4.6 lbs. **\$469⁹⁵**



AEA DSP-232 Multi-mode Data Controller • Features simultaneous dual port HF/VHF operation. All amateur PSK satellite modems: PACSAT, OSCAR 13, and UO-22. Compatible with G3RUH/K9NG 9600 baud modems. LCD readout displays channel mode and status. 11½" w x 9¾" d x 2¾" h, 4 lbs. **\$899⁹⁵**

AEA FAX II



Stand-alone multi-intensity gray-scale fax demodulator and display software package for IBM-compatibles. Receive 16 gray levels on satellite maps and wire photos on VGA monitor. Also, decodes CW, RTTY, and NAVTEX transmissions. COM1-COM4 support. Export images to GIF or PCX files. Fax station database. Tuning scope visible even when receiving an image on screen; auto save ability; shielded audio cable; 5-1/4" and 3-1/2" disks included. General coverage HF SSB receiver and IBM-compatible PC with 640K memory required. **\$99⁹⁵**

MFJ



MFJ-1274 TAPR TNC-2 Clone Controller (left/top) • Work VHF, UHF, OSCAR and other non-FM packet. Interfaces with any computer with RS-232 serial port and appropriate terminal program. High performance switchable HF VHF modems. Includes EasyMail™ personal mailbox, WeFAX reception. KISS interface for TCP/IP. 256K EPROM and 32K RAM. 20 segmented LED tuning indicator, a TTL serial port, lithium battery memory back-up. AX.25/Level 2/Version 2 software, hardware HDLC for full duplex, true data carrier detect for HF, multiple connects. Comes with easy-to-read manual, transceiver interface cable (less connector, TTL serial port connector, and a power supply for 110V AC. Also works on 12V DC for portable, remote or mobile operation. 9½" x 7½" x 1½" **\$129⁹⁵**

MFJ-1270B TAPR TNC-2 Clone (left/bottom) • Same as 1274 above except does not have 20 LED tuning indicator. **\$109⁹⁵**

NEW! MFJ-1278B Multi-mode Data Controller (right/top) Ten modes—now with built-in PACTOR, 16-level FAX, Color, SSTV, PACKET, AMTOR, RTTY, ASCII, CW Navtex and Memory Keyer. New enhanced 32 Mailbox, 32K System RAM, 16-gray level modem, 20 LED tuning indicator, Automatic Signal Analysis, MARS mode, sidetone amplifier, internal modem header, 10 user programmable message buffers, packet connect bell, dual radio ports, "Has Mail" LED indicator, KISS interface, Host mode, Threshold control, RS-232 and TTL ports. Fast start manual, AC adapter. 9½" x 9½" x 1½" **\$269⁹⁵**

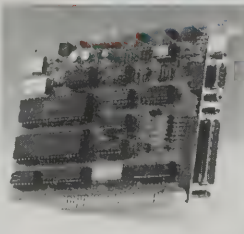
MFJ-1278BT Turbo (top/right) • Same as MFJ-1278B above except Turbo version, includes a 2400 baud modem. **\$339⁹⁵**

MFJ Starter Pack • Computer interfacing cable, terminal software and instructions. Order **MFJ-1282B** Multi-Com disk or **MFJ-1283** tape for C64/128/VIC-20. **MFJ-1284** for IBM or compatibles or **MFJ-1287** for Apple Mac. **See Price List**

MFJ-1289 Multicom Program for MFJ-1278 • Supports color SSTV, 16-level FAX, packet picture. Menu driven, bursting with features - one key micro, call alert, auto router, auto parameters setting to TNC, text editor, 32K receiver buffer, and more! Complete with cable. (IBM 5¼") **\$59⁹⁵**

DRSI

Digital Radio Systems



PC* Packet Adapter System for IBM PC and Clones

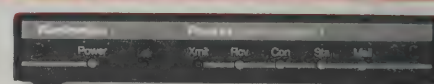


A half-length, plug-in option card for IBM PC XT/AT and compatible computers. **Type-1** has two ports; one with a 1200 baud AFSK modem for direct connection to an FM transceiver, the second accepts an external modem using either RS-232 or TTL levels. When used with the **DRSI HF Modem**, the system becomes a complete HF/VHF dual-port TNC with simultaneous connects on both ports. **Type-2** has two 1200 baud VHF ports. Software includes a split screen, menu driven terminal program, terminate-and-stay resident background AX.25 device driver, stand alone TNC emulator and utility programs. Terminal program has pop-up windows and on-line help functions, scroll buffer, printer support, etc. **Type-3** has two serial ports for a special dual frequency HF/BBS system and is typically used with two **DRSI HF*Modems** at independent data rates up to 38,400 baud. **See DRSI in the Price List**

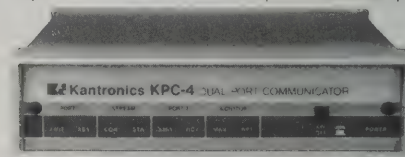


DRSI DPK-2 • A compact, low power, ALL CMOS packet radio TNC. Less than 40 ma. at 12 VDC. 100% firmware compatibility with the TAPR TNC-2 and runs ROSE and NET/ROM. Includes pakET 5.1 disk, V 1.8a firmware, Personal message System and connectors. 1¼" h x 5" w x 6¼" d. **\$114⁹⁵**

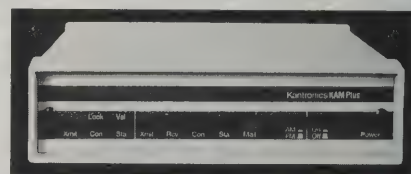
KANTRONICS



KANTRONICS KPC-3 Packet Communicator • Small sized, low power, full featured packet TNC. Features a dual-level command set: NEW USER level provides 23 command most frequently used in basic packet and TERMINAL level provides complete access to the more than 130 commands available. for full operation when ready. Requires only 6-25VDC at less than 40 ma., making it perfect for portable or other low power operations. 32K RAM standard, expandable to 128K or 512 bytes. WEFAK operation with optional SuperFax II program for PC compatibles. 0.8" h x 5.2" w x 5.2" d, 11 oz **\$119⁹⁵**



KANTRONICS KPC-4 Packet Communicator • Features similar to KPC-3 but speed only 1200 bps or higher. Includes simultaneous dual radio ports which allow gateway operation. 32K RAM, expandable to 64K. 1¼" h x 6" w x 9" d. **\$289⁹⁵**



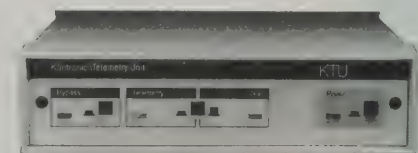
KANTRONICS KAM Plus All Mode Communicator • Features two radio ports, a Personal Packet Mailbox and two modems for simultaneous VHF/HF gateway operation. VHF port supports 1200 baud Packet and reception of WEFAK. The HF port supports all HF modes: CW, RTTY/ASCII, AMTOR-AMTOR 625, NAVTEX/AMTEX, PACTOR & WEFAK; MARS compatible. Software Carrier Detect, KISS mode, real-time clock, battery back-up and KA-NODE operation. Operates RS-232 port or the TTL port used on standard shifts and can be user programmed for any shift. 12V DC. 1¼" h x 6" w x 9" d, 2½ lbs. **\$309⁹⁵**



KANTRONICS Data Engine • Dual port TNC with high speed capability. Standard configuration: AX.25 packet firmware. Modems available with data rates up to 19.2K baud, install second modem for dual port operation. The G8BPQ Packet Switch firmware is also available (enhanced Net/Rom emulation). Open architecture, includes developers manual, V40 processor/10MHz clock, 64K RAM (expandable), EPROM socket supports up to 1/2Mb firmware. RS-232 port supports data rate to 19.2K baud. Hardware HDLC (85C30), lithium battery backed RAM, real time clock. 1¾" h x 6" w x 9" d, 2½ lbs. **\$299⁹⁵**



KANTRONICS D4-10 High Speed Data Radio • Couple with Data Engine and DE 19K2/9K6 modem card for 19,200 or 9600 baud operation on 100kHz channels within the 70cm band. 10W output. 12VDC 1¼" x 6" x 8", 2 lbs. **\$349⁹⁵**



KANTRONICS KTU Telemetry Unit • Connects to TNC for instant access to weather parameters. Temperature probe with 40 ft. cable included; optional wind speed/direction sensor and rain gauge. 1¾" h x 6" w x 8" d, 2½ lbs. **\$309⁹⁵**



Kantronics **KPC3**

Low Power High Performance

Designed for user friendly operation, but with an eye to the advanced packeteer too, the Kantronics Packet Communicator 3 delivers high TNC performance with low power in a compact package.

The **KPC3** features an improved **DualLevel™** command set. The **NEWUSER** level provides 23 commands most often used in basic packet while an expert level provides access to the **KPC3**'s full 130 plus command set. The **KPC3** also has Kantronics version 5.0 firmware. Add the **KPC3** "Getting Started" and advanced reference manuals and you have a TNC that not only gets you up and running fast but a TNC sophisticated enough to keep you running with the state of the art.

The **KPC3** provides status information at a glance via its six LEDs. The unit may be powered by an external supply or an internal 9-volt battery and features 32K of battery backed RAM expandable to 512K.

Additional features include Kantronics PBBS with reverse forwarding, message header editing, a mail waiting LED, remote sysop access and Kantronics KA-Node. Kiss mode and Kantronics Host mode are also provided for TCP/IP compatibility and advanced operation.

Options include Hostmaster Terminal Software for PC compatible, Macintosh and Commodore 64/128 computers, Weather Facsimile (WEFAX) reception, and real time clock.

The Kantronics **KPC3**: low power, high performance, and user friendly operation at a user friendly price.

Call AES®
"The Packet Experts"
for Low Prices
&
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on Kantronics Products



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INTRODUCING THE PK-900... NEW FROM THE INSIDE OUT!



IT'S THE NEXT GENERATION
IN MULTI-MODE CONTROLLERS.

Now, there's a new standard of excellence in multi-mode digital controllers...the new PK-900 from AEA. It incorporates all of the features which made the PK-232 the most popular multi-mode controller in the industry. But that's just the start. AEA's new PK-900 also features dual port HF or VHF on either port; low cost 9600 baud plug-in option; memory ARQ and VHF DCD state machine circuit; powerful triple processor system; zero crossing detector for the sharpest Gray Scale FAX you've ever seen; and many other new software selectable features.

Inside and out, the new PK-900 from AEA is what other multi-mode controllers will now be measured against.

- Processors used: Zilog 64180, Motorola 68HC05C4, Motorola 68HC05B4
- Data rates: 45 to 1200 baud standard, up to 19.2K baud with external modems
- Dimensions: 11.75" (29.84cm) x 11.75" (29.84cm) x 3.5" (8.89cm) Weight: 4.6 lbs. (2.08 kg)
- Power requirements: 12 VDC at 1.1 amps

Connect with us for what's new in multi-mode controllers.
Call our literature request line at 1-800-432-8873.

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PACTOR
now standard

MFJ gives you PACTOR at no extra cost

No other Multi-Mode gives you all these features -- not one!

... only the new easy-to-use MFJ-1278B Multi-Mode and MultiCom™ software gives you all these features plus 10 digital modes ... PACTOR, Color SSTV, 16 Gray Level FAX, Packet, AMTOR, RTTY, ASCII, Navtex, CW and Memory Keyer Plus an Enhanced 32K Mailbox

New enhanced MFJ-1278B



MFJ-1278B Multi-Mode
\$269⁹⁵
MFJ-1289 MultiCom™
\$59⁹⁵

New features for MFJ-1278B

- New PACTOR Mode
- 32K bytes Enhanced Packet mailbox
Allows separate callsign, auto forwarding and reverse mail forwarding, Remote Sysop access, Sysop paging, chat mode, mailbox C-text
"Has-mail" LED indicator, Mailbox is expandable to 128K or 512K.
- New COLOR SSTV VIS tones. Allow other SSTV receiver to auto start picture
- 1 Megabit system EPROM
- 64K bytes battery backup RAM
- European RTTY tones selectable
- External reset, optional scope tuning output
- Selectable 19,200 baud terminal operation

Transmit and Receive Color SSTV

- Robot Color: 36, 72 Seconds
- Robot B/W: 8, 12, 24, 36 Seconds
- Scotty Color: 1 and 2
- Martin Color: 1 and 2

16 Gray Levels FAX/SSTV Modem

- 16 Gray Levels Weather/AP Wire FAX

Real-Time Packet Pictures

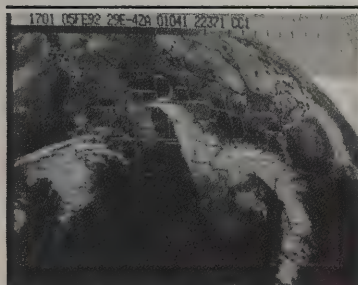
- SVGA, VGA, EGA, CGA Color Packet Pictures

Standard Features

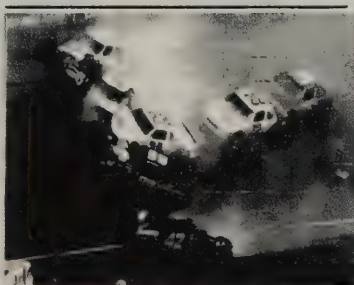
- Auto terminal baud rate: 300, 1200, 2400, 9600, 19,200
- Built-in 300 and 1200 baud packet modem
- Two software selectable radio ports
- Threshold control
- KISS interface for TCP/IP, MSYS compatible
- Anti-collision technology gets packets through faster, Host mode
- True DCD circuit designed for HF
- Normal or reverse FSK output
- RS-232 and TTL serial ports
- Fast-Start™ Manual

More Exclusive Features

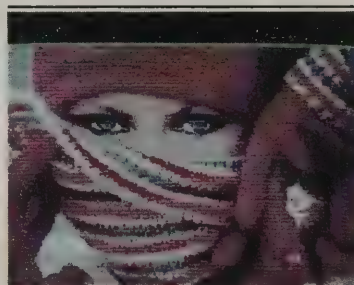
- Automatic Signal Analysis™ for HF packet and AMTOR as well as RTTY and ASCII
- Built-in printer port
- Built-in sidetone amplifier with volume control
- TAPR internal modem header for high speed modem-2400 or 9600 baud
- 20-LED precision tuning indicator
- Automatic Digipeater™ Routing
- QSO and transfer files simultaneously
- Dedicated MARS mode
- Individual radio port level control
- Stored parameters for each mode
- CW iambic paddle input
- 10-user programmable message memory buffers
- Call Alert Beeper™
- Built-in packet connect bell
- IC sockets used throughout
- A/C power supply included
- One year unconditional guarantee



16 Gray Levels WeFax map received on 16.410 MHz. MFJ-1278B & MultiCom™ transmit and receive 16 Gray Levels FAX.



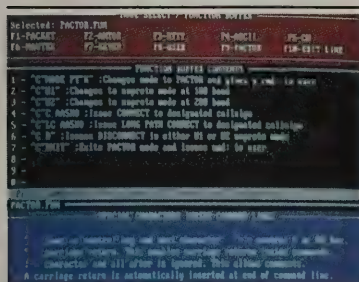
16 Gray Levels AP Wire Photo FAX received on 20.738 MHz. See tomorrow's news today.



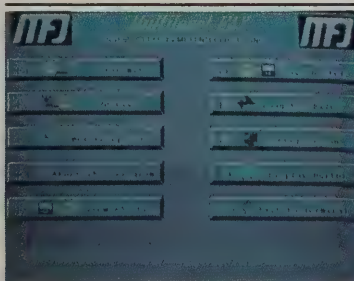
Full Color SSTV pictures received on 14.230 MHz. Robot 72-Second format. Transmit and receive color and B/W SSTV.



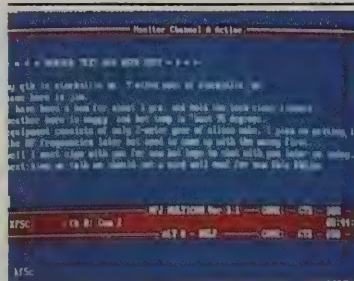
256 Color VGA Packet Picture received in real-time packet. Only MFJ-1278B and MultiCom™ has this feature.



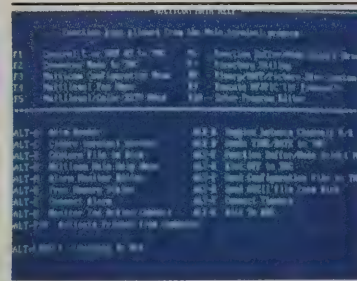
Easy and simple ... MultiCom™ Operating menu—each mode gives you 10 programmable function buffers.



Dedicated MultiCom™ FAX menu. Getting on FAX and SSTV is as simple as pressing one or two keys.



MultiCom™ lets you carry on two digital QSO's simultaneously using two multi-modes or TNC's and two comm ports.



Need help? Alt-H brings up the on-line Help Menu that makes the MFJ-1278B very easy to use.

New MFJ-1278BT Turbo with fast 2400 baud modem



Only the MFJ-1278BT, \$339.95, gives you a built-in 2400 baud modem. Runs high speed packet without modifying your radio. Get the MFJ-1278BT and operate 300, 1200 and 2400 baud packet. The 2400 baud modem is also available separately. Order MFJ-2400, \$89.95, for any MFJ TNCs and MFJ multi-modes.

MFJ-1278 Upgrade*

Upgrade your MFJ-1278 to include PACTOR and the enhance mailbox—MFJ-56A (32K), \$69.95; MFJ-56B (128K), \$89.95; MFJ-56C (512K), \$229.95.

Exclusive Optional Items

- Real-time clock, MFJ-43 \$29.95
- Plug-in Scope tuning adapter, MFJ-44 \$29.95
- 2400 baud internal modem, MFJ-2400 \$89.95
- 9600 baud internal modem MFJ-9600 \$104.95

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Telephone Interconnects . . .

You can access your Home telephone line from your Mobile or Handheld by installing an *Interconnect Device* on your existing base station radio.

CES

Connect Systems, Inc.



CES SDI-50 Automatic Simplex Interconnect • Uses *VOX-enhanced sampling*, gives telephone phone access to handhelds and mobiles. Remotely programmable from any touch phone. Allows telephone-to-mobile signaling for selective calling. Automatic CW ID, converts base stations to a remote station accessible from any telephone. AC adapter and cables included. 14 $\frac{1}{2}$ "w x 8 $\frac{3}{4}$ "d x 1 $\frac{1}{2}$ "h, 3 $\frac{1}{2}$ lbs. **\$489⁹⁵**



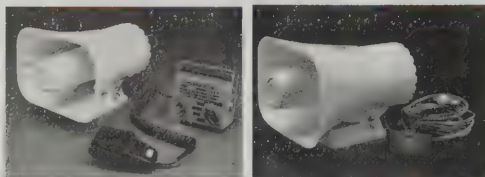
CES SSI-68 Simplex Interconnect • For mobile applications, controlled by DTMF audio from mobile or telephone. Interface and software allows for operation with a wide variety of radio and telephone systems. *VOX-enhanced sampling* for optimum performance. Comes with telephone cable, computer interface and AC adapter. 8 $\frac{1}{2}$ "w x 6 $\frac{1}{2}$ "d x 1 $\frac{1}{4}$ "h, 2 $\frac{1}{2}$ lbs. **\$299⁹⁵**



CES 410 Personal Patch • An economy, easy to use *basic* interconnect. Does not have all of the user programmable features found in the higher priced CES telephone interconnects. 10-16V DC. 8 $\frac{1}{2}$ "w x 6 $\frac{1}{2}$ "d x 1 $\frac{1}{4}$ "h, 2 $\frac{1}{2}$ lbs. **\$189⁹⁵**

GROTHE Electronics

Sirens & Horns



Model VS-2 Emergency Vehicle Siren (right) • Designed expressly for the volunteer fireman. Delivers a loud 120dBa (600-1200 Hz) sound level at 4 ft. Comes prewired with 3-position switch - *Siren-Off-Yelp*, 5" x 7" x 8" super high efficiency horn speaker, 10 ft. cable, mounting bracket and hardware. Requires 12V DC @ 1.5 amps. 2.7 lbs. **\$89⁹⁵**

Model VS-3 Volunteer Vehicle P/A & Horn (left) • Public address (P/A) for use in crowd control, at accidents, club events, etc. Powerful 95W output *Airhorn Sound* with *four different* sounds really calls attention to your vehicle. Rebroadcast feature allows you to pickup sound from your rig and rebroadcast and monitor through the speaker outside. Includes speaker, microphone, controller 10 ft. cable, mounting bracket and hardware. 12V DC. **\$129⁹⁵**

Model VS-4 P/A Emergency Vehicle Siren (left) • All features: P/A, Rebroadcast, Wail, Yelp, Pulse, Airhorn. Volume control of all siren modes. Includes speaker, mic, controller, 10 ft. cable, mounting bracket and hardware. 12V DC **\$139⁹⁵**

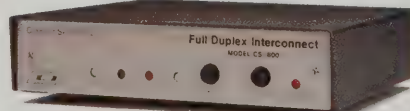
STANDARD FEATURES (all models): Built-in programming Keyboard and Digital display • Redial • Single or multi-digit access codes • Secret toll override access code • Toll Restrict • Regenerated tone or pulse dialout • Ringout on 1-9 ring Line in use detect • Call waiting • CW ID • Hookflash • More!



CONNECT SYSTEMS Private Patch V • *Top-of-the-line!* - user programmable multi-mode interconnect that can operate the following modes: *Enhanced Sampling*, *VOX Simplex*, *Semi-Duplex* and *Repeater Maker*. Private modes built-in for future use. Ninety memory Speed-dialer and Remote base mode, included. Connects to the mic. and speaker jacks of any simplex transceiver for *VOX Simplex*; other modes require internal connections. 12V DC. 11 $\frac{1}{16}$ "w x 7 $\frac{7}{8}$ "d x 1 $\frac{1}{8}$ "h, 3 $\frac{1}{2}$ lbs. ... **\$489⁹⁵**



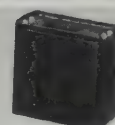
CONNECT SYSTEMS CS-700 Intelligent Interconnect • For *Simplex* operation. Offers selectable *VOX Enhanced* or *VOX Controlled* sampling which allows the mobile operator to have positive control at all times. Internal connection to the discriminator of your simplex transceiver. Nine memory Speed-dialer standard. 12VDC. 6 $\frac{1}{2}$ "w x 7 $\frac{1}{8}$ "d x 1 $\frac{1}{8}$ "h, 2 $\frac{1}{2}$ lbs. . **\$299⁹⁵**



CONNECT SYSTEMS CS-800 Full Duplex Interconnect Operates *full* or *half* duplex and also has a built-in *Repeater Maker* that allows you to turn your radio into a powerful repeater system. Use with dual banders or connect to your existing repeater for Full Duplex patch. Nine memory Speed dialer standard. 12V DC. 6 $\frac{1}{2}$ "w x 7 $\frac{1}{8}$ "d x 1 $\frac{1}{8}$ "h, 2 $\frac{1}{2}$ lbs **\$319⁹⁵**



CONNECT SYSTEMS CS-900 Control Station Interconnect Voice activated, can be used simplex or through any remotely located repeater. The standard 1/2-second *Electronic Voice Delay* totally eliminates syllable or word clipping and results in outstanding simplex performance. Ninety memory Speed-dialer and Remote base mode included. Requires only connections are to the microphone and speaker jacks of your simplex transceiver. 12V DC. 6 $\frac{1}{2}$ "w x 7 $\frac{1}{8}$ "d x 1 $\frac{1}{8}$ "h, 2 $\frac{1}{2}$ lbs. **\$349⁹⁵**



Rechargeable Nickel Cadmium batteries and inserts available for ICOM Handhelds. • See Price List under **NICAD BATTERIES**.

ICOM

Repeaters for 144/220/440/1200MHz



VHF/UHF

Model RP-1520 (2-meters) • Covers 144-148MHz FM with 25W output. Fully synthesized - no retuning after changing frequency. *Features:* User programmable call sign ID; Hang-up and time out timers; Manual transmit; DTMF decoder for remote control operation; Local inhibit function and CTCSS encoder; Excellent IMD attenuation. Sensitivity: <0.5uV for 12 dB SINAD. Built-in speaker and microphone connector. 117V AC or 13.8V DC. 16 $\frac{1}{2}$ "w x 5 $\frac{1}{4}$ "h x 14 $\frac{1}{2}$ "d, 37 $\frac{1}{2}$ lbs. **CALL**

Model RP-2210 (220 MHz) • Features are similar to RP-1520 above. Covers 220 to 225 MHz in 5 kHz tuning step increments with 25W output. CTCSS and hang-up timer are dip-switch programmable. Eeprom programming for ID. **CALL**

Model RP-4020 (440 MHz) • Similar to RP-1520/2210 except for different appearance. Covers 430 to 450 MHz with 25W output. The DTMF code includes a 4-digit password to prevent undesired remote control access. **CALL**

Model RP-4020/50W (440 MHz) • 50W output. **CALL**

Model RP-1220 (1.2 GHz) • Similar to ICOM repeaters above. Synthesized, covers 1240 to 1300 MHz with 10W (high) or 1W (low) output. Battery back-up connector. Most functions can be remotely controlled using DTMF codes. **CALL**

RF Products

Improves HT mobile performance!

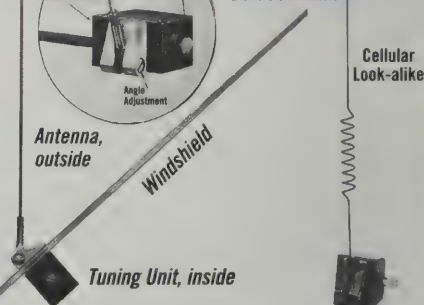
Attach the VHF or UHF duck from your HT to this handy magnetic mount. Place it outside on the roof or trunk where it can radiate without obstruction.

199-416 • BNC, w/10' coax **\$17⁹⁵**

199-495 • PL-259, 13 ft. coax ... **\$23⁹⁵**

Antenna Specialists

"on-glass"™ Mobile Antennas



No holes! A small tuning unit attaches to the glass inside vehicle and couples capacitively thru-the-glass to a 1/2 wavelength element on the outside. Installs with **DUOBOND™** adhesive that holds fast but is easily removed without damage. Rated for 100W. Includes adhesive and 15 ft. coax and connector. Regular models for 2m, 220MHz and UHF bands. Cellular look-alikes for 2m or 440MHz bands **See Price List**

AES® Store Locations

Phone

Toll Free

FAX

Milwaukee, WI	53223; 5710 W. Good Hope Road	(414) 358-0333	1-800-558-0411	(414) 358-3337
Wickliffe, OH	44092; 28940 Euclid Avenue	(216) 585-7388	1-800-321-3594	(216) 585-1024
Orlando, FL	32803; 621 Commonwealth Avenue	(407) 894-3238	1-800-327-1917	(407) 894-7553
Clearwater, FL	34625; 1898 Drew Street	(813) 461-4267		(813) 443-7893
Las Vegas, NV	89106; 1072 N. Rancho Drive	(702) 647-3114	1-800-634-6227	(702) 647-3412

NYE Accessories



MB-V-A 3KW Antenna Tuner

Low-pass Pi-Network tuning 1.8 to 30MHz continuous (160 to 10 meters). Heavy duty silver plated continuously variable inductor with 25:1 vernier dial. 7KV variable capacitor and 15KV switch selected fixed output capacitors. Tunes any antenna 1/4-wave length or longer between 40 to 2000Ω and provides harmonic suppression. (Note: Will not tune some antennas at 1.8MHz). Automatic metering of SWR without reset or calibration. Separate RMS wattmeter (300 or 3KW) - automatically switched. Precision 2 1/2" recessed and back-lighted meters display SWR and power - continuously. Rugged, silver plated 5-position pushbutton antenna switch selects 4 antennas (2 coaxial, single wire and balanced line) and tuner bypass. Trifilar-wound 3KW toroid balun provides balanced output from 200 to 1000Ω and unbalanced output down to 20Ω. Requires a standard 9V battery for meter circuits and an external 12V DC source for meter lights (*both items not supplied*). 14 1/2" w x 6 3/4" h x 12 1/2" d, 18 lbs..... **\$699⁹⁵**

Other NYE Tuners:

MB-IV-A1 • Antenna tuner; same specifications as MB-V-A except no antenna switching circuitry or balun **\$569⁹⁵**

MB-IV-A2 • Antenna tuner; same specifications as MB-V-A with balun but no antenna switching circuitry **\$599⁹⁵**

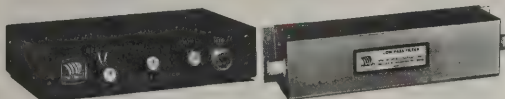
MB-V-B • Antenna tuner; same specifications as MB-V-A except no power or SWR metering capability **\$549⁹⁵**



NYE Power Monitor System

Combination fully automatic SWR meter, peak and average reading wattmeter, reverse power meter and self contained ALO relay circuit. Full-wave detection and adjustable hold time captures RF peaks and shows true PEP output. The separate SWR meter reads direct, without adjustment, from 0.5W-5KW. The ALO circuit provides for automatic shutdown of your linear amplifier in case an excessive SWR condition should unexpectedly occur. Powered by nicad batteries which are kept charged by a small amount of the applied RF or by the separate AC adapter supplied for charging and backlighting of panel meters. Separate calibrated remote coupler covers 1.8 to 30MHz. Two models: RFM-003 (3KW sensor and meter range) or RFM-005 (5KW sensor and meter range). *Optional* 300 or 500W couplers. 3 3/8" h x 7 1/2" w x 5" d, SO-239 connectors.

RFM-003 - \$329⁹⁵ • RFM-005 - \$349⁹⁵



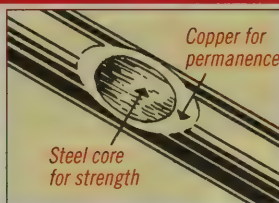
NYE Phone Patch (left) • Interfaces your transceiver with the telephone line for conducting phone patch operations. Automatic line level control for comfortable operator monitoring and NULL control for superb VOX operation. When installed in-line, full microphone function is retained. 1 1/2" h x 7 1/2" w x 4 1/2" d. Compatible with all transceivers.

Model 047-001 • has 4-pin microphone connector **\$129⁹⁵**
Model 047-002 • has 8-pin microphone connector **144⁹⁵**

NYE Low Pass Filter-020-001 (right) • Installs between rig and 52Ω coax fed antenna systems. Eliminates TVI caused by transmitter harmonics falling in the TV bands. Usable from 1.8 to 30MHz, rated at 2KW and will handle 5KW SSB peaks. Three constant-K, plus two precision tuned M-derived sections give a flat, low loss passband and stopband for over 65dB attenuation above 57MHz. SO-239 connectors **\$45⁰⁰**

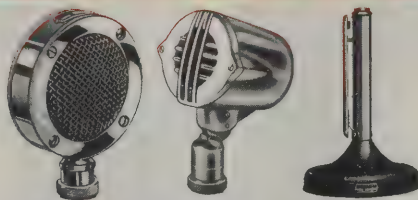
CROWN METAL

**COPPERWELD
Antenna Wire
MOLTEN-WELDING
makes the two metals
inseparable!**



Solid bare copper-over-steel wire - ideal for antennas. Strong, has very little stretch and long service life. Copper covering for low resistance and easy to soldering. Choice of 12, 14 or 18 ga., in 100, 150, 250, 500 or 1000 ft. rolls..... **See Price List**

ASTATIC Microphones



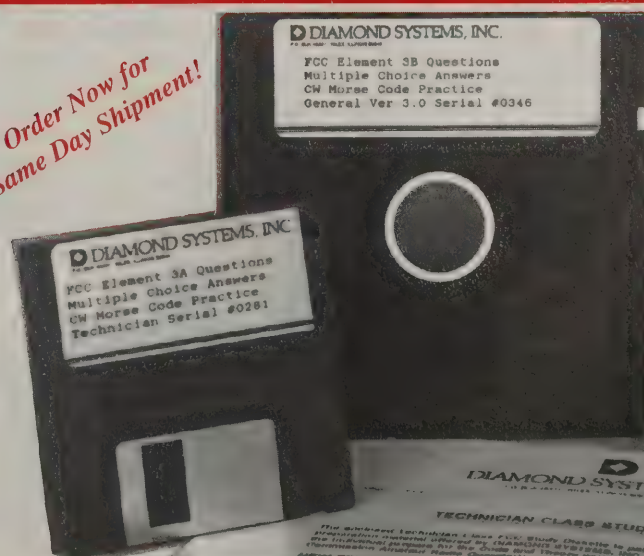
D-104-L (left) • The original "super talk power" microphone, a favorite of hams for many decades. It's high output and 30-7500Hz response with rising characteristics between 500-4000 Hz, make it ideal where maximum intelligibility throughout the voice range is important. Shock proof cartridge with high-Z crystal element, metal sealed for protection. Solid machined brass parts, heavy mesh grille—all chrome plated, 3" dia. x 1 1/2" d, 14 oz. Requires T-UG-9 stand **\$39⁹⁵**

10DA-L (center) • High-Z dynamic microphone with top amateur SSB performance. Features a controlled 300-3000 Hz response that provides high attenuation of the unwanted sideband and better copy through heavy interference. 2 1/2" w x 2 3/4" h x 3 3/4" d, 17 oz. Requires T-UG-9 stand **\$49⁹⁵**

T-UG9 Microphone stand (right) • Accepts the D-104-L or 10DA-L heads above. Has a built-in adjustable amplifier with an output impedance that matches most transmitters. Side switch bar for easy PTT with slide-up clamp for locking down. 8 1/2" high w/o mic head; base 5 1/2" dia. Chrome plated neck, grey painted base. 6-wire coiled cable (audio with shielded ground, and 4 control wires). Requires 9V battery **\$50⁰⁰**

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JPS Communications, Inc

Solves problems noise problems!



NIR-10 Noise & Interference Reduction Unit

NIR-10 • Provides Real time Digital Signal Processing (DSP) at 40MHz - install at the audio output of a communications receiver to enhance the quality of received voice and CW signals. **NIR Mode:** reduces or eliminates heterodynes, white noise, ignition noise, RTTY interference and power line noise. **PK (PEAK) Function:** reduces white noise and interference. **NF (Notch Filter) Mode:** easily removes multiple heterodynes. **BP (Band Pass) Mode:** features adjustable center frequency, selectable bandwidths, extremely steep skirts and >60 dB ultimate rejection. 12 VDC. 2" x 7" x 6", 2 lb..... **\$349⁹⁵**



NF-60 Audio Spectral Notch Filter

NF-60 • Digital Signal Processing automatically and effectively removes MULTIPLE interfering heterodynes (tones and whistles), tune-ups and CW/RTTY tones. Connects between the receiver audio output and speaker. Built-in speaker amplifier. 12 VDC, 1 3/4" h x 6" w x 4 3/4" d, 2 lbs..... **\$149⁹⁵**



NRF-7 Filter and Noise Reducer

NRF-7 • Installs at receiver audio output—provides several functions that improve reception Amateurs and SWL's. Reduces or eliminates atmospheric (white/pink) noise and multiple heterodynes. No-Delay filters for AMTOR, FACTOR, Break-in CW. Sharp, non-ringing CW and Voice filters, plus auto NOTCH filter and white noise reduction. Internal speaker amplifier 12VDC. 1 3/4" h x 6 1/2" w x 5" d, 2 lbs. **\$249⁹⁵**

The World's smallest
HF Transceiver!



KENWOOD TS-50S • All-mode, 160-10M with 500kHz-30MHz receiver, 100 memories. 100W output Dual VFOs, programmable function keypad, large LCD display with dimmer, convenient menu programming, computer controllable. DDS with "Fuzzy" control logic, TF-set, IF shift, AIP, CW reverse, all-mode squelch, noise blanker. Select full break-in/semi break-in. 12V DC @ 20A. 2.4" h x 7.6" w x 9.32" d, 6.4 lbs



KENWOOD TS-950SDX • 150W, 160-10M all-mode with 100kHz-30MHz receiver and built-in antenna tuner. Dual receive, 100 memories, scanning. Speech processor, QSK semi-break-in, IF VBT, AF VBT, SSB slope tuning. Receive and transmit DSP with 23 position AF digital filter, 5 position auto AGC, 500 Hz CW filter in sub-receiver. CW reverse mode tunes either side of carrier, Direct Digital synthesis for 1Hz step tuning. 50V MOS FET final amplifier, CW memory keyer, remote key pad, speaker outputs for main and sub receiver. Filters: 1st/2nd IF 500Hz, 2nd IF 250 Hz, 6kHz AM, 2.4kHz SSB. Selectable tone burst or CTCSS, built-in computer interface, power supply, speaker. 5.5" h x 15.8" w x 15.75" d, 50.7 lbs



KENWOOD TS-850S • 100W, all-mode 160-10M transceiver with 100kHz to 30MHz receiver. VFO or keypad frequency entry. Optional internal antenna tuner and external Digital Signal Processing (DSP) units. 10 Hz step dual VFOs, multi-mode scanning, full and semi-break-in CW, interference reduction, keyer, dual noise blanker, squelch, built-in speaker, 100 memory channels, and RIT/XIT. Hand microphone supplied. Requires 13.8V DC @ 20A. 13" w x 4 3/4" h x 13 1/2" d, 24 lbs. Model **TS-850S/AT** has a built-in antenna tuner.



KENWOOD TS-450S • 100W, all mode, all band transceiver with 500kHz-30MHz receiver. 100 multi-function memory channels with multi-scan functions. Dual VFOs, speech processor, dual noise blankers. RIT/XIT notch filter. Digital bar meter. Optional internal 80-10M automatic antenna tuner, external Digital Signal Processor and external mobile antenna tuner. 10 1/2" w x 3 3/4" x 12" d, 13.9 lbs. Model **TS-450S/AT** has a built-in antenna tuner. Model **TS-690S** is the same as the TS-450S but includes 6-meter band coverage with 50W output.



KENWOOD TS-140S • 100W, 160-10M all-mode with 500kHz-30MHz receiver. VFO tuning or with up/down frequency switches. Dual VFOs, 31 multi-function memories, programmable memory and band scan, programmable band marker. 10 memories store tx/rx frequencies independently for repeater operation. Noise blanker, IF shift, RIT, speech processor. QSK or semi CW. 13.8V DC @ 20A. 4 1/2" h x 11" w x 12" d, 13 lbs.

Due to foreign currency fluctuations, prices are
not shown on this page. Call Toll Free for latest
Sale Prices, Monthly Specials, Coupons, etc.



KENWOOD TR-751A • 2 meter all-mode transceiver with coverage from 142-149MHz and easily modifiable for MARS operation. Selectable 5 or 25W output, dual digital VFOs, 10 memories, programmable band scan. GaAs FET RF amplifier, all mode squelch, noise blanker, semi-break-in CW, RIT, S/R/F meter. Automatic mode selection. Optional Programmable CTCSS. Requires 13.8V DC @ 6A. 2 3/8" h x 7" w x 7 1/2" d, 5 1/2 lbs.



KENWOOD TS-790A • Three band all-mode with 2M and 440MHz standard; 1.2GHz with optional module. Power: 45W (2m), 40W (440 MHz); 10W (1.2GHz). Dual VFOs for each band, dual displays. Keyboard entry, 59 memories, scanning. Dual reception of 2M/440MHz 2M/1.2GHz or 440/1.2GHz bands. Speech processor, IF shift, CW narrow filter. Full duplex, doppler frequency correction, optional computer interface. Requires 13.8V DC @ 15A. 4 3/4" h x 13" w x 13" d, 20 lbs.



KENWOOD TM-742A (left) • 2M/440MHz dual/triple band FM mobile; optional band units for 1.2GHz, 220, 28 or 50MHz. 2M receive 138-173MHz; transmit 144-148MHz, user modifiable for MARS/CAP. 440MHz transmit/receive 438-449.995 MHz. Output: (2M) 50W, (440MHz) 35W. Dual watch for simultaneous 2M/440 receive. 100 memories per band, programmable memory and dual scanning with lockout and priority. CTCSS encoder, selectable full duplex, with modification operates as across band repeater. Requires 13.8 V DC @ 11A. 2" h x 6" w x 8" d, 4 lbs. • Model **TM-942A** covers 2m/440MHz and 1.2GHz.

KENWOOD TM-732A (right) • 2m/440MHz. 144-148MHz tx; 118-174MHz rx and 438-450 tx/rx. Four VFOs, 51 multi-function memories. Back-lit LCD. Programmable VFO operates independently for VHF and UHF. Can operate as a cross band repeater, VHF + VHF, or UHF + UHF. Automatic band change, dual channel watch, full band or programmable band scan, lockout. DTSS, pager function, programmable squelch, triple-tone alert system. 1 1/2" x 5 1/2" x 6 1/2", 2.4 lbs.



KENWOOD TM-641A (left) • 2m/220MHz dual/triple band FM mobile. Optional FM band units for 28, 50, 440 and 1200MHz. 2M rx: 118-174MHz, tx: 144-148MHz user modifiable for MARS/CAP. 220MHz rx: 215-235MHz, tx: 220-225MHz. Dual triple receive, 101 memories per band, band and memory scanning on all bands, detachable front panel for remote control. Encode built-in, decode optional. Direct entry from microphone, pager function, autodial with optional DTU-2. Modifiable for cross band repeat. 5.91 x 1.97 x 6.899, 3.5 lbs.

KENWOOD FM Mobiles (right) • 20 full-function memories CTCSS encode. Tone alert, auto power off and timeout timer. Band and memory scanning with selectable scan steps and memory channel lockout. 5 1/2" w x 1 1/2" h x 6 1/2" d, 2 1/2 lb.

TM-241A • 2 Meters—118-173.99 receive (includes aircraft AM), 144-148MHz tx. Selectable 5/10/50W output.

TM-331A • 220MHz, 25W.

TM-441A • 440MHz, 35W



KENWOOD

TH-28A and TH-48A FM Handhelds

Similar Features: Single band transmit, dual-band receive. Six character alphanumeric LCD display, 40 multi-function memories, band or memory scanning. 15-digit autodialer with 10 memories. Tone alert system with time indicator. Digital clock, CTCSS encode/decode, 10 minute timeout timer. 1.9" w x 4.6" h x 1.5" d, 12 oz

TH-28A • 2 meters: 118-174MHz receive, 144-148MHz transmit, 438-450MHz UHF receive. 2.5W out, 5W with optional battery.

TH-48A • 440MHz: 438-449.995MHz transmit and receive, 136-174MHz VHF receive. 2.0W output, 5W with optional battery.

KENWOOD

TH-78A Dual Band FM Handheld

2 meters & 440MHz; 144-148 tx, 118-174MHz rx and 438-450MHz tx/rx. 2.5W output on 2 meters, 2.0W output on 440MHz, 5W out on both bands with 12V source or optional battery. 50 multi-function memory channels, 2 call channels. Dual receive with large dual six character LCD display, separate volume and squelch for each band, full-duplex, cross band repeat function, dual band scan, built-in DTSS and pager. Auto power off, auto battery save and 10 minute timeout timer. Four selectable power output levels, auto power off, auto battery save, 10 minute timeout timer. CTCSS encode/decode, 15 digit autodialer. 1.9" w x 5.3" h x 1.6" d, 15 oz.

CLOSEOUTS

440 MHz
220 MHz



TH-47A (left) • 440MHz handheld — covers 438-449.995MHz with 1.5W output with standard battery pack or 5W out with optional pack. Multi-function band and memory channel scanning with time or carrier operated stop. Selectable step tuning. Built-in digital clock with programmable timer. Auto battery saver and power off, economy mode. DTMF memory function may be used as an autodialer. CTCSS encode/decode built-in. 2" w x 5" h x 1 1/2" d, 0.8 lb. ... **CLOSEOUT \$249⁹⁵**

TH-315A • 220MHz handheld — covers 215-230MHz tx, 220-225MHz rx. 2.5W output with standard battery pack; optional batteries available for 5W high power or 1.5W extended operation. Direct keyboard entry, LCD display, 10 memories, full scan capabilities, CTCSS encoder. Belt hook, flexible antenna, battery and wall charger. Also operates from 7.2-16V external DC. 6 1/2" h x 2 3/4" w x 1 1/4" d, 1.2 lbs. **CLOSEOUT \$249⁹⁵**

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\$100**

TS-950SDX: An industry first! 50-volt, MOS FET final amplifier and DSP for superior linearity. 150 watts output•All-band HF transceiver with general coverage receiver•Switchable AGC, selectable IF filters with memory, dual-mode noise blankers, IF notch filter, CW reverse mode, CW pitch, SSB slope tuning, IF and AF variable bandwidth tuning•Built-in CW memory keyer (DRU-2 voice keyer optional)

**SAVE
\$20**

TM-241A: Wide band receiver coverage•CTCSS encode built-in•Three power settings: 5, 10, and 50 W•20 full-function memory channels store everything you need•Multiple scanning functions

**SAVE
\$30**

TM-732A: 50 watts on 2m, 35 watts on 70cm•Wide coverage receiver•CTCSS encode built-in, decode optional•50 memory channels•Unique S-meter squelch•Remote controllable via DTMF

**SAVE
\$30**

TM-742A: 2m, 50 watt/70cm, 35 watt modular FM transceiver•101 memory channels for each band•CTCSS encode built-in•Wide band receiver•Optional modules for 28, 50, 220, or 1200 MHz•Remote-mountable front panel

**SAVE
\$20**

TH-28A: •2m pocket HT, 2.5 watts output •Sub-receiver for 70cm band•Alpha numeric display and message paging•CTCSS encode/decode built-in•Wide band receiver•40 memory channels

**SAVE
\$20**

TH-78A: Full duplex cross-band operation•CTCSS encode/decode built-in•Alpha numeric display and message paging•Wide band receiver •50 memory channels •Sliding keyboard cover and illuminated keypad

**SAVE
\$50**

TS-850S: All-band HF transceiver with general coverage receiver, 100 watts•SSB slope tuning, CW variable pitch and reverse control, IF notch, 1-Hz fine tuning function•Superb receiver sensitivity and extremely quiet noise floor•SSB HIGH BOOST function to bust through the pile-ups•Filter options for both first and second IF sections•Built-in CW memory keyer (DRU-2 voice keyer optional)

**SAVE
\$50**

TS-450S: All-band HF transceiver with general coverage receiver, 100 watts •Wonderfully easy to use, yet high-performance package•Filter options for superb receiver performance

**SAVE
\$30**

TS-50S: An exceptional compact, all-band HF transceiver, with 500 kHz to 30 MHz receiver. 100 watts. DDS with "fuzzy logic" control. Kenwood's Advanced Intercept Point (AIP) ensures top performance with reduced noise floor



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93ARD-0756

FM HANDHELD TRANSCIVER TH-78A

Smart Choice: Kenwood's Matchless TH-78A

Compact and confident, Kenwood's TH-78A (144MHz/440MHz) sets exciting new standards for portable communications, combining simplicity of operation with a multiplicity of sophisticated features. In addition to built-in DTSS and paging functions, alphanumeric memory and message paging, the TH-78A provides a dual-frequency receive capability (including VHF + VHF & UHF + UHF) plus double-band scan. And its chic, ergonomic design—incorporating a sliding keypad cover—distinguishes it as the smallest dual-band transceiver in the world.



KENWOOD
Club Station • WD6DJY
Operator: Jim Hlavaty • KC6TUZ



Dual-frequency receive

For maximum convenience on the move, the TH-78A offers extensive dual-band functions, including full-duplex cross-band operation and the ability to receive two frequencies on the same band (VHF + VHF or UHF + UHF) simultaneously. In addition to A.B.C. (automatic band change), there is a dual encoder—enabling independent control of VHF and UHF bands—and, using an external speaker, both bands can be monitored at the same time.

Alphanumeric memory

Since alphanumeric data (max. 6 characters) can be entered directly into memory, the operator is free to use repeater or group names instead of the actual frequencies.

50 multi-function memory channels plus 2 call channels

Ample memory is another benefit of the TH-78A. There are no fewer 52 channels available for storage of transmit and receive frequencies, repeater data, DTSS codes, CTCSS data, etc. The optional memory expansion unit (ME-1) increases the number of channels to 250. With alphanumeric memory active, the number of available channels is 25 and 125, respectively. Memory is non-volatile (except for the 2 call channels), so no back-up battery is required.

Double-band scan

For maximum convenience, the operator can choose from 8 different types of scan for each band, plus 2 scan stop modes—carrier-operated (stops on a busy channel for as long as the signal is present) and time-operated (stops for 5 seconds on each busy channel).

DTSS

(dual-tone squelch system)

The DTSS function allows DTMF (dual-tone, multi-frequency) access to the transceiver: the squelch is opened only when the appropriate 3-digit code has been received. For convenience, DTSS codes may be stored in all memory channels and the VFO.

Pager function

Enhancing the DTSS function is the pager. This responds to a 7-digit DTMF tone group (operator's 3-digit code + * + caller's 3-digit code), alerting the operator and indicating the caller's identity on the display. An added feature is open paging: even during normal reception (squelch open), the pager can be on the alert for a predetermined code. If the caller's code matches, his identity is displayed.

Alphanumeric message paging

In addition to the DTSS and paging functions, alphanumeric messages of up to 6 characters can be kept in memory for transmission. On receipt, the latest 10 messages are stored in memory automatically, so the transceiver can be left unattended.



Optional NiCd batteries

The key to portable performance is power conservation. On the TH-78A both auto power-off and auto battery saver functions help to maximize operating hours. Also, three NiCd batteries are optionally available, including the high-power PB-17 and the long-life PB-18.

Battery life (approx.)*

(hour)

Power Battery type	VHF			UHF		
	HI	LO	EL	HI	LO	EL
PB-13	4.5	7	20	3.5	5	14
PB-17	3	7	20	2.5	5	14
PB-18	7	11	31	5.5	8	22

* Assuming a repeater cycle of 6-second transmit, 6-second receive, 48-second standby

Separate BAND, VFO, MR & CALL keys

Auto-dial function (10 memories)

Auto repeater offset (VHF)

Built-in CTCSS operation

10-minute transmission time-out timer (TOT)

3-position output power control (High/Low/Economy Low)

Selectable dual- and single-band operations

Dual squelch controls

Auto repeater band memory

Tone alert system with time indicator

Clock and timer on/off

Optional remote control speaker microphone (SMC-33)



Illuminated keypad



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Venture

A new realm in HF communications

Offering superb TX/RX performance plus exceptional signal purity, Kenwood's TS-950SDX establishes a new benchmark for HF communications.

- Built-in DSP (digital signal processor)
- Dedicated Power MOS FET final section
- User-friendly menu system
- Automatic antenna tuner built-in
- AIP (Advanced Intercept Point) system
- Ultra-fine (1Hz) tuning

• **Super stability with reliability**

The Power MOS FET final section is conservatively rated at 150W (40W in AM mode). This increases reliability and lowers distortion.

• **Wideband general coverage receiver**

The TS-950SDX covers all Amateur bands from 160 to 10 meters. The receiver covers 100kHz to 30MHz.

• **100 memory channels with multi-scan functions**

Enabling independent storage of TX and RX parameters, the 100 memory channels may be scanned with such conveniences as programmable memory channel lock-out and continuous control of scan speed.

• **Built-in DSP**

The digital signal processor replaces conventional analog circuitry for processing the TX signal in the SSB, CW, AM, and FSK modes. Reception is also enhanced: digital PSN detection and digital audio filtering help to eliminate interference and improve audio quality.

• **Power MOS FET final section**

The TS-950SDX ranks as the first Amateur Radio transceiver to feature an FET final section. Superior linearity results in greatly improved TX performance.

• **Dual-frequency receive**

The TS-950SDX can simultaneously receive two frequencies within 1MHz of each other. To facilitate split-frequency operations, front panel controls include M/S (main/sub) select and an RX+SUB key for instantly swapping the two frequencies. A 500Hz CW filter is included in the sub receiver.

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TS-950SDX

HF Transceiver

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Long Beach, CA 90801-5745

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6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

93ARD-0623

PEAK PERFORMANCE



Kenwood—the hallmark of quality in HF communications

TS-450S HF Transceiver

Kenwood's TS-450S displays a wealth of engineering expertise derived from years of experience with transceiver technology. Covering all nine amateur bands—in SSB, CW, AM, FM and FSK modes—with powerful 100W output (40W for AM), the TS-450 can star in virtually any role. Its compact,

lightweight construction and rugged reliability make it especially suited for "DX-peditions." Advanced features include Kenwood's Advanced Intercept Point (AIP) system for improved dynamic range, a Direct Digital Synthesizer for fine (1Hz) tuning, automatic antenna tuner (built-in or optional), and the optional DSP-100 digital signal processor.



TS-850S HF Transceiver

Tried and true, Kenwood's TS-850S is the perfect choice for the experienced HF operator who wants uncompromising performance plus user-friendly convenience. Among the impressive credentials of this top-flight HF transceiver are a Direct Digital Synthesizer and a digital PLL system to permit ultra-fine (1Hz) tuning, and 100 memory channels with 3 scan modes. Options include the DSP-100 digital signal processor and a preprogrammed automatic antenna tuner.



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Kenwood's TS-50S is going places. As the smallest HF transceiver in the world, it opens up a whole new world for the Amateur Radio enthusiast. It can be mounted in a vehicle, taken on a DX-pedition, or even permanently installed as a base

Compact Milestone

station transceiver. Yet despite its compact dimensions, the TS-50S packs a hefty punch. Maximum output is 100W, and there's a powerful cooling fan with heat sink to



ensure stable operation. Sophisticated features include DDS with innovative "fuzzy" control, and Kenwood's own AIP. For user-friendly operation on the move, there's also a multi-function microphone, a handy menu system, and an optional antenna tuner. All this and more, for the TS-50S is equipped with dual VFOs for split-frequency operations.



160m to 10m Amateur band operation with 500kHz to 30MHz general coverage receiver

Despite its small size (179mm wide, 60mm high, 233mm deep), the TS-50S offers transmit/receive performance equivalent with most of the large HF transceivers on the market. Naturally, it supports LSB, USB, CW, AM and FM.

DDS (Direct Digital Synthesizer) with fuzzy control

For the first time, Kenwood has introduced "fuzzy" logic control circuitry to enable the main encoder to tune smoothly from 5Hz steps to fast forward mode.

AIP (Advanced Intercept Point)

Kenwood's AIP system—an exclusive circuit design capable of raising dynamic range to 105dB—ensures first-class receiver performance with a significantly reduced noise floor level.

100 memory channels

The TS-50S is equipped with 100 channels for independent storage of transmit and receive parameters such as frequency, mode, and filter setting. Memory shift facilitates transfer of data to the VFOs.

Easy-to-use scan functions

Convenience is further improved with the provision of a carrier-operated scan stop mode, a first for HF rigs.

Comprehensive interference reduction

•CW reverse mode

The pitch of interference competing with the CW signal is reversed so the operator can approach the signal from either side.

•All-mode squelch

The squelch circuit effectively suppresses undesirable background noise when there is no signal present.

•Switchable AGC circuit (SLOW/FAST)

AGC (automatic gain control) can be changed via the menu system. This ensures optimum receiver operation in SSB, AM and CW modes under all signal strength conditions.

•IF shift

•20dB attenuator

•Noise blanker (pulse)

Powerful menu system

First featured on the top-of-the-line TS-950SDX, Kenwood's versatile menu system is provided on the TS-50S—to select CW full or semi break-in, change repeater sub-tone, adjust microphone UP/DOWN step size, and perform many other operations using just a few keys. The menus are also accessible via the supplied microphone.

Dual VFOs (A and B)

Since VFO data is stored independently for each band, even after switching bands the previously used frequency will still be available.

TF-SET

TF-SET is provided so the TS-50S can be used for split operations and DX applications. This function is available when the receive frequency is locked, so the operator can avoid losing a targeted DX station.

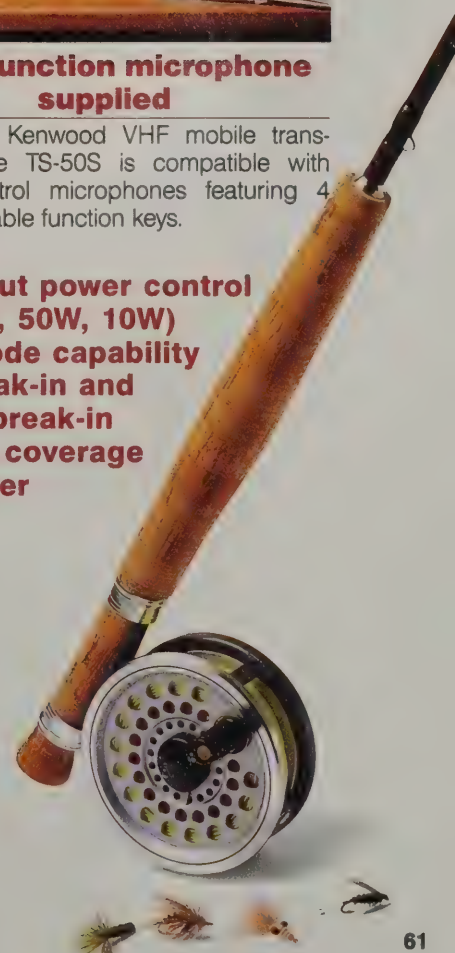


Multi-function microphone supplied

Like other Kenwood VHF mobile transceivers, the TS-50S is compatible with remote-control microphones featuring 4 programmable function keys.

RF output power control (100W, 50W, 10W)

Auto-mode capability Full break-in and semi break-in General coverage receiver



High Octane

The mobile transceiver with muscle—from Kenwood

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Generating 50 watts of RF output, Kenwood's TM-241A Series is ideal for on-the-move communications. This single-band transceiver is a smart choice for mobile applications that demand reliable performance with optimum operating ease. Add in Kenwood's options and you're assured of first-class communications.

- **Wide band receiver coverage.** The TM-241A receives from 118-173.995 MHz. Transmit range is 144-148 MHz. (Modifiable for MARS and CAP operation, permits required.)
 - **TM-331A** covers 215-230 MHz
 - **TM-441A** covers 438-449.995 MHz, and the **TM-541A** covers 1240-1299.995 MHz.
 - **CTCSS built-in, selectable from the front panel.** KQT-8 programmable decoder optional.
 - **TM-241A provides 50 W, TM-331A is 25 W, TM-441A 35 W, and TM-541A 10 W.** Three power positions, 5, 10, and full. The TM-541A has two power positions, 1 and 10 watts.
 - **RC-20 Remote control option.** The RC-20 gives you the needed flexibility for those tough installations. As supplied, one RC-20 will control two transceivers. All front panel functions are controllable from the RC-20. The RC-20 and IF-20 combine to allow control of up to four radios.
 - **20 full-function memory channels** store frequency, repeater offset, sub-tone frequencies, and repeater reverse information. **Repeater offset on 2m is automatically selected.** There are **four channels** for "odd split" operation.
 - **Selective calling and pager option.**
 - **Digital recording system option.**
 - **Multiple scanning functions.** Band and memory scan, with selectable scan stops and memory channel lock-out.
 - **Large LCD display with four-step dimmer control.**
 - **Supplied accessories.** Mounting bracket, DC cable, fuses, multi-function DTMF mic.
- Optional accessories:**
- **RC-10** Handset remote controller
 - **PG-4G** Extra control cable
 - **RC-20** Full-function remote control head
 - **IF-20** Interface unit, used with the RC-20, allows 2 to 4 radios to be remotely controlled
 - **KQT-8** Programmable CTCSS decoder
 - **PG-2N** Extra DC cable
 - **PG-3B** DC line noise filter
 - **MA-700** 2m/70cm dual band antenna with duplexer (mount not supplied)
 - **MB-201** Extra mounting bracket.



TM-241A/331A/441A/541A

FM Mobile Transceivers

(Specifications guaranteed for Amateur band use only.)

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NEW

3-Way Split

Mobile transceivers with stylish sophistication

Kenwood's new TM-742A (144MHz/440MHz) and TM-942A (144MHz/440MHz/1200MHz) FM multibanders offer prime performance plus unparalleled freedom of choice for installation (optional kit).

- **High power**

Maximum RF output is 50 watts (144MHz), 35 watts (440MHz), and 10 watts (1200MHz).

- **Wideband receiver coverage**

The TM-742A receives from 118 to 174MHz and 410 to 470MHz; transmit ranges are 144-148MHz and 438-450MHz. The TM-942A adds the 1240-1300MHz range.

- **New & improved detachable front panel**

The display and control sections can be separated for 3-way convenience. (with DFK-3, 4, 7)

- **100 memory channels**

The 100 multi-function memory channels (all available for split operation) can be grouped into 5 banks for added convenience.

- **Multiple scan modes**

Choose from 8 scan modes per band, plus CO (carrier-operated) and TO (time-operated) scan stops.

- **Tri-band receive/display**

The TM-942A can receive/display all three bands (144MHz/440MHz/1200MHz) simultaneously. For the TM-742A there are four optional band units: 28MHz (50 watts), 50MHz (50 watts), 220MHz (25 watts), and 1200MHz (10 watts).

- **Cross-band repeater, dual-in repeater, fixed-band repeater**

- **Single-bander simplicity**

Independent SQL and VOL controls for each band enable rapid response.

- **5 meter squelch and auto squelch**

Weak signals can be shut out. Noise squelch is also available.

- **Supplied multi-function microphone**

Enables direct frequency entry.

- **Clock and timer**

Includes stopwatch, alarm and on/off timer functions.

- **Wireless remote control function**

A DTMF transceiver can be used to control various settings on the TM-742A/942A.

- **Built-in DTSS and pager function**

The TM-742A/942A offers DTSS (Dual-Tone Squelch System) for selective calling and paging using standard DTMF tones. Elapsed time is shown by the tone alert system.

- **Supplied accessories**

Mounting bracket, DC cable, fuses, mic, mic hook.

- **Choice of accessories**

A full line of mics, speakers, and other accessories is available. See your authorized Kenwood Amateur Radio dealer for details!

Specifications guaranteed for Amateur band use only.



TM-742A/942A

Mobile Transceivers

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93-ARD-0593

FM DUAL BANDER

TM-732A

Attuned to the fast-moving world of mobile communications, Kenwood's new TM-732A FM dual-band transceiver (144MHz/440MHz) offers a host of advanced features in a compact design. In addition to dual receive (including VHF + VHF and UHF + UHF), built-in DTSS and pager functions, there's a multi-function microphone to facilitate on-the-move operation. And the detachable front panel has a high-visibility LCD display to keep you informed of operational status.

Simple & Sensational: Kenwood's Talented TM-732A

Up to 50 watts of RF output power

Ensuring top performance, maximum output is 50 watts (144MHz), and 35 watts (440MHz). For low-power operations, 10- and 5-watt settings are also available.

Dual-band receive

• VHF + UHF, VHF + VHF, UHF + UHF

Thanks to dual-channel watch, two frequencies can be received simultaneously — even on the same band (VHF + VHF or UHF + UHF).

• Automatic band change (A.B.C.)

Once activated, A.B.C. ensures that the transceiver will change automatically between main and sub bands when a signal is present.

• Separate speaker terminals (switchable)

Terminals for each band are provided separately so the operator can switch between them.

• Programmable VFO

This VFO can be programmed independently for two bands. (VHF + UHF, VHF + VHF, UHF + UHF)



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Compact design with detachable front panel

The LCD display offers excellent clarity, and for maximum freedom of choice during installation it can be removed from the control unit so the latter can be fitted under a seat or in another convenient location. This requires the optional PG-4K/PG-4L kit.



50 multi-function memory channels plus 1 call channel

For mobile applications quick access is important. That's why transmit and receive frequencies, frequency step, tone frequency, DTSS code, and other data can be stored in the TM-732A's 51 memory channels. All channels can store transmit and receive frequencies independently (alternatively, 64 simplex memory channels can be selected).

Dual band-scan functions

The choice of scan modes is sufficient for even the most demanding operator: full band and program band scans, memory scan with memory channel lock-out (to skip selected channels and preserve data stored in them), MHz scan, and call scan. Plus, for each band there are TO (time-operated) and CO (carrier-operated) scan stop modes. Moreover, these functions can be activated for each band independently.

DTSS with pager function

For DTMF access, the TM-732A is equipped with DTSS (Dual-Tone Squelch System): with this, the squelch is opened only on receipt of a specific 3-digit code. A pager alerts the operator to an incoming call, opens the squelch, and displays the caller identification in the LCD window — provided that the receiver has been programmed to accept a specific DTMF tone group. And an added feature is open paging: even during normal reception (squelch open), the pager can be on the alert for a predetermined code.

Triple-tone alert system with elapsed time indicator

To alert the operator, a distinct audio tone (one of 3 available) is emitted from the transceiver in response to an incoming signal. As a visual prompt, the LCD panel displays a flashing bell together with the time.

Repeater function

With repeater mode selected, the TM-732A may be used as a cross-band repeater or as fixed-band repeater.

Wireless remote control function

Using a DTMF transceiver, various settings on the TM-732A can be controlled. This function is convenient for repeater mode.

S meter squelch

As an added convenience, new circuitry allows the operator to determine a minimum signal strength for opening the squelch or stopping during a scan; all weaker signals will be ignored.

Auto power-off (3hr)

If the transceiver is switched on but no signal is received for a period of 180 minutes, it is automatically turned off after a warning beeper sounds.

Timer function

Audible frequency identification

Multi-function microphone supplied

RF output power control (High/Mid/Low)

Time-out timer

Auto repeater offset (144MHz only)

Repeater reverse switch and offset switch

Direct frequency entry via microphone keypad



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AMERITRON HF Power Amp



NEW! AMERITRON ALS-600 • No tune Solid State FET Amplifier. Continuous coverage 1.5-22MHz; 10/12 Meters with easy-to-install optional kit. 700W PEP, 500W CW. Illuminated Cross-Needle SWR/Wattmeter, SWR and overload protection, front panel ALC control. Transmit, ALC, SWR LED indicators. Includes separate power supply which will operate on 100-130VAC or 220-250VAC. Both units are 6" x 9 1/2" x 12" **\$1099**



NEW! AMERITRON ALS-500M • No tune Solid State FET Amplifier. **Ideal mobile amplifier!** Continuous coverage 1.5-22MHz; 10/12 Meters with easy-to-install optional kit. (4) 2SCC2879's deliver 600W PEP, 400W CW with <100W drive. Illuminated Cross-Needle SWR/Wattmeter, SWR and overload protection, remote ON/OFF control. Requires 13.8VDC @ 80A peak for PA and separate 12-15VDC @4A for control and bias circuits. Compact! - 3 1/2" x 9" x 15" **\$679⁹⁵**



AMERITRON AL-80B • Covers 1.8, 3.5, 7, 14, 18, 21 and 24MHz. Single 3-500Z; 85W drive for 1KW PEP SSB or 850W CW out. Built-in supply. 14" w x 8" h x 15 1/2" d, 52 lbs. **\$1069**



AL-82
AL-1200
AL-1500
similar in
appearance

AMERITRON AL-82 • Covers 160-12M. (2) 3-500Zs, two bias settings for CW/RTTY or SSB. 1500W continuous output at nearly 70% plate eff. Built-in supply with 1.8KW CCS rated Hypersil® transformer. 10" h x 17" w x 18" d, 76 lbs. **\$1679**

AMERITRON AL-1200 • Covers all ham bands 1.8 to 21MHz and WARC bands. Single Eimac 3CX-1200A7; 110W drive for 1.5KW output. Heavy-duty silver-plated tank components, built-in commercial rated power supply with Hypersil® transformer. 10" h x 17" w x 18" d, 83 lbs. **\$1749**

AMERITRON AL-1500 • Covers 160-12M. Single Eimac 8877 final tube delivers 1500W output with 65W drive. Time delay start-up protects tube. 10" h x 17" w x 18" d, 77 lbs. **\$2199**



AMERITRON AL-811 Linear Amplifier • Covers 160-12M. (3) 811A tubes, 600W PEP SSB and 500W CW output. Tuned input is an easy match for solid state rigs. Vernier drive plate tuning, illuminated grid and plate voltage/current meters. Built-in 120V power supply. 16" d x 13 1/2" w x 8" h, 30 lbs. **\$589⁹⁵**

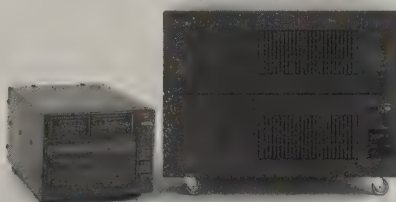
AMERITRON AL-811H Linear Amplifier • Similar to AL-811, but has (4) tubes and rated 800W PEP **\$719⁹⁵**

The HF amplifiers shown on this page are user modifiable for 10-meters for those with a valid, current amateur radio license.

ICOM HF Power Amps



ICOM IC-2KL • Covers 160-12M. Solid-state, no tune-up. 50 to 80W drive provides 500W PEP SSB output or 500W CW for Separate amplifier and 110/220V power supply units. Automatic operation with ICOM transceivers. Both units are: 4 1/2" h x 9 1/2" h x 15 1/2" d, total weight: 45 lbs. **CALL**



ICOM IC-4KL • Covers 160-12M. Solid-state, no tune up. Separate controller and amplifier. Uses four - 8 transistor modules; 1KW output @ 100% duty cycle. Built-in automatic antenna tuner with memory and 40V/60AMP power supply. Dual meters show SWR, final amplifier current and temperature, and output. Automatic operation with ICOM transceivers. **Controller unit:** 5 1/4" h x 7 1/4" w x 13 1/2" d, 66 lbs. **Amplifier unit:** 11 1/4" h x 16 1/4" w x 18" d, 79 lbs. **CALL**

JRC HF Power Amp

RPS
or
Air
Freight
Shipment
only.



JRC JRL-2000F • Solid-State - Incorporates 48 RF power MOSFETS to ensure low distortion and clean output, plus a high speed automatic tuner with a memory capacity of 1820 channels. In addition, it has a built-in high efficiency switching power supply, an automatic antenna selector and a wireless remote control. Full break-in capability. Covers 1.8, 3.5, 7, 10, 14, 18, 21, and 24 MHz bands. Drive: 100W maximum. Rated output for SSB is 1KW at 100% duty cycle, continuous. FSK/FM is 1KW at 100% duty cycle, 1/4 hour. 12" h x 17" w x 16" d, 85 lbs. **\$3999**

KENWOOD HF Power Amp



RPS
or
Air
Freight
Shipment
only.

KENWOOD TL-922A • Covers 160-15M. (2) 3-500Zs; 80W drive for 1500W PEP SSB output. Rugged, heavy-duty electrical and mechanical construction of the highest quality. Case has convenient recessed carrying handles. Built-in power supply. 15 1/2" x 7 1/2" h x 16 1/2" d, 80 lbs. **CALL**

YAESU HF Power Amp



YAESU FL-7000 • Covers 160-12M. Solid-state, "no tune" with built-in automatic antenna tuner and power supply. 70W drive for 600W output. Full break-in for CW, HF Packet and AMTOR. Tuner memory holds antenna selection and tune settings. Circuit automatically turns off amp and attempts to rematch if SWR exceeds 2:1. Automatic selection of 4 antennas with optional unit. 5" h x 15" w x 15" d, 66 lbs. **CALL**

RF Concepts VHF/UHF Amps

- Single/Duoband models
- FM/CW/SSB modes
- GaAs FET preamplifier
- Overdrive protection
- 12V DC
- RFC 1-year warranty



Model	input	output	amps	Price
2-meters				
2-23	0.2-5W	30W @ 2W in	5	\$139 ⁹⁵
2-315	30-50W	150-170W	25	269 ⁹⁵
VHF 1-60*	1W	60 @ 1W in	10	239 ⁹⁵
2-417	0.2-50W	170W @ 45W in	22	269 ⁹⁵
220MHz				
3-22	5W	20W	4	\$139 ⁹⁵
3-211	2W	110W	22	329 ⁹⁵
3-112	0.2-15W	120W @10W in	12	329 ⁹⁵
3-312	30W	120W	22	299 ⁹⁵
440MHz				
4-32	3W	20W	4	\$184 ⁹⁵
4-110	10W	100W	22	369 ⁹⁵
4-310	30W	100W	20	349 ⁹⁵
UHF-50*	3W	50W	10	279 ⁹⁵
Dual Band - 2m/440 MHz				
2/70*	(3W) (5W)	(30W) (20W)	6	\$239 ⁹⁵
2/70G	(3W) (5W)	(30W) (20W)	6	259 ⁹⁵
2/70H*	(28W) (20W)	(200W) (125W)	40	719 ⁹⁵

* Denotes No Receiver Preamplifier

MIRAGE VHF/UHF Amps



SSB/FM/CW • Automatic antenna changeover with adjustable SSB delay • 10dB gain Low Noise receive preamp • Overload protection • Optional remote control • Mobile use, or Base with an adequately rated DC power supply (ASTRON power supplies recommended) • **MIRAGE 5-year Warranty, 1 year on RF power transistors.**

Model	MHz	input	out	amps	preamp	SALE
A-1015G	50-54	10W	150W	23	yes	\$339 ⁹⁵
A-1035G	50-54	10W	350W	23*	yes	559 ⁹⁵
B-23	144-148	2W	30W	5	no	114 ⁹⁵
B-23G	144-148	2W	30W	5	yes	154 ⁹⁵
B-215G	144-148	2W	150W	20	yes	319 ⁹⁵
B-108G	144-148	10W	80W	12	yes	194 ⁹⁵
B-1016G	144-148	10W	160W	25	yes	319 ⁹⁵
B-1030G	144-148	10W	300W	48	yes	589 ⁹⁵
B-1060G	144-148	10W	600W	52*	yes	929 ⁹⁵
B-2516G	144-148	30W	160W	25	yes	269 ⁹⁵
B-2530G	144-148	30W	300W	48	yes	589 ⁹⁵
B-2560G	144-148	25W	600W	52*	yes	929 ⁹⁵
B-5016G	144-148	50W	160W	24	yes	269 ⁹⁵
B-5030G	144-148	50W	300W	48	yes	569 ⁹⁵
B-5060G	144-148	50W	600W	45*	yes	929 ⁹⁵
C-22	222-225	2W	20W	5	no	114 ⁹⁵
C-22G	222-225	2W	20W	5	yes	154 ⁹⁵
C-211G	222-225	2W	110W	20	yes	304 ⁹⁵
C-106G	222-225	10W	60W	12	yes	204 ⁹⁵
C-1012G	222-225	10W	120W	5	yes	304 ⁹⁵
C-1022G	222-225	10W	220W	20*	yes	559 ⁹⁵
C-2512G	222-225	30W	120W	20	yes	289 ⁹⁵
C-2522G	222-225	30W	200W	42	yes	559 ⁹⁵
C-5012G	222-225	50W	120W	20	yes	289 ⁹⁵
C-5022G	222-225	50W	240W	42	yes	539 ⁹⁵
D-15N	425-450	2W	15W	3	no	174 ⁹⁵
D-26N	430-450	2W	60W	12	no	244 ⁹⁵
D-1010N	430-450	10W	100W	15	no	354 ⁹⁵
D-3010N	430-450	30W	100W	20	no	329 ⁹⁵
D-100-ATVN	430ATV	1W	52W	20	no	354 ⁹⁵
D-1010ATVN	430ATV	10W	100W	20	no	354 ⁹⁵

* at 28VDC N denotes Type-N connectors

RC-1 Remote Control Head • for all MIRAGE amplifiers except the B-23S, B-23G, C-22G and D-26N. **\$42⁹⁰**



YAESU FT-1000 • 200W - 9-band, all-mode transceiver with 100kHz-30MHz receive. 99 memories and built-in antenna tuner with 39 memory presets. Knob or direct keyboard entry. Simultaneous dual receive with two tuning knobs, balance and dual displays; optional crossband dual receive module. Digital Voice Storage option for playback of 16-second receive memory plus two 8-second "CQ Contest" messages on transmit. Antenna selector, electronic keyer, independent filter selection. Cascaded filter selections, width control, IF shift, IF notch, squelch, noise blanker, CW audio peak filter. Built-in AC supply. 6" h x 16" w x 15" d, 58 lbs.

YAESU FT-1000D • Deluxe version—dual bandpass filter for crossband receive, temp. compensated crystal oscillator, 2.4kHz/2KHz SSB filters and 500Hz CW crystal filter.



YAESU FT-990 • 100W—all mode 160-10M transceiver with 100kHz-30MHz receiver. 99 tunable/scannable memories and built-in antenna tuner with 39 memory presets. Dual VFOs, digital IF shift and notch, speech processor. Special provisions for CW, RTTY and Packet. Digital Voice Contest option. Built-in AC supply. 12" w x 4" h x 11" d, 30 lbs.

FT-990DC • Same, but NO AC supply or CW filter.



YAESU FT-890 • 100W 160-10M all mode transceiver with 100kHz-30MHz receiver. Two independent A/B VFOs for each band (20 total) hold frequencies and modes, clarifier offsets and repeater shifts. 32 memories store data for both VFOs, giving a total of 84 independent sets of frequency, mode and other selections that can be tuned and scanned. Noise blanker, all-mode squelch, AF speech processor, built-in iambic keyer. Provisions for internal automatic antenna tuner. 13.5VDC @ 20A. 9" h x 3" w x 9" d, 12.3 lbs.

New!



YAESU FT-840 • 100W 160-10M all-mode transceiver with 100kHz-30MHz receive. Two independent A/B VFO's for each band hold frequencies and mode. 100 memories with independent transmit and receive per memory, built-in CTCSS encode, IF shift and direct digital synthesis receiver. Two opt. antenna tuners. 13VDC @ 20A. 4" h x 9" w x 10" d, 10 lbs.



YAESU FL-7000 (left) • Solid-State HF Linear Amplifier with built-in antenna tuner. Covers 160-12 meters, rated at 600W out with 70W drive. 5" h x 15" w x 15" d, 66 lbs.

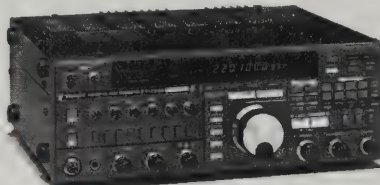
More FL-7000 info on RF Power Amplifier Page

YAESU FRG-100B (left) • Newest high performance, all mode communications receiver with 50kHz-30MHz coverage. 12V DC. 9" w x 3" h x 9" d, 6" lbs.

More FRG-100B info on Shortwave Page



YAESU FT-650 • 100W - 6, 10 and 12M all mode transceiver with 24.5 to 56.0 MHz receiver. 105 memories: 99 for channels, 4 programmable scan memories and 2 priority channels. 1.2db NF receive preamplifier with switched 5 MHz bandwidth varactor tuned BPF, Direct Digital Synthesis and automatic seeking notch filter. Built-in AC supply or direct 12V DC @ 18A operation. 5" h x 11" w x 11" d, 18 lbs.



YAESU FT-736R • All-mode, 2M/430 multi-band VHF/UHF transceiver. Optional band modules for 50MHz, 220MHz, and 1.2GHz. 10W out on 50MHz and 1.2GHz, 25W on the others. 14 VFO modes, 100 multi-function memories, 10 full-duplex memories. Satellite function, independent or synchronous operation of VFOs. Speech processor, iambic CW keyer, QSK or semi-full break-in CW. IF shift tuning, CW carrier shift, audio peak filter. All-mode squelch, noise blanker, illuminated multi-function meter. AFSK input for packet, CAT System bus for PC control. Built-in AC supply, or 12V DC with optional power cord. 5" h x 14" w x 11" d, 19.8 lbs.



New!

YAESU FT-2200 • 2-meter FM transceiver. 50W with 53 memory channels (Odd splits in any memory). 144-148MHz transmit; 110-180MHz receive, including aircraft receive, built-in DTMF paging, coded squelch, user-selectable tuning steps, CTCSS encode and backlit microphone are included. 50/25/5W 12VDC @ 10A. 1" h x 5" w x 6" d, 2" lbs.



FT-912RH (left) • 10w, 1.2GHz FM transceiver. Large multi-function LCD display. User-selectable tuning steps with main tuning knob and up/down frequency entry with supplied DTMF microphone. Digital VFO, 20 full-function memories with scanning and lockout, encoder/decoder standard. Programmable band scan and offset, priority and call channels. CAT System for computer control. 12V DC @ 4A. 1" h x 5" w x 6" d, 2.8 lbs.

Portable VHF/UHF FM/SSB/CW transceivers (right)

Three models, same appearance and function. 2W out when operating from 12V DC @ 1.1A, or with optional snap-on battery case containing 9 (C) cells or nicads. DTMF microphone with up-down control, dual VFOs, 10 multi-function memories with scanning, programmable band scan. Offset tuning for satellites, LCD display. 2" h x 6" w x 7" d, 2.6 lbs.

FT-290R MkII • 2-meters, 144-148MHz, 25W

FT-690R MkII • 6-meters, 50-54MHz, 10W

FT-790R MkII • 430-450MHz, 25W



YAESU FT-5200 • 2m/440MHz remotable FM Mobile. Covers 144-148MHz transmit with 140-174 receive and 430-450MHz. 32 tunable memories, 38-tone programmable CTCSS encoder and 7 DTMF memories. Output: (2m) 50/5W, (440) 35/5W. Cross band full duplex. Built-in duplexer, backlit DTMF microphone, detachable front panel. **Optional:** Digital voice memory, DTMF paging unit, CTCSS dual decoder, wireless microphone/remote controller, external speaker and separation kit. 5" w x 1" h x 6" d, 2 lb

FT-5100 • Like 5200 without remote capability and has 91 memories and backlit DTMF microphone.

FT-6200 • Covers 440MHz/1.2GHz, 35w/10w



YAESU FT-2400H • 2-meter FM mobile. Rugged, built to take off-road abuse. Three power levels: 50W high, 25W mid and 5W low. Wide band receive 140-174MHz (140-150MHz tx). 31 full function memories, CTCSS encoder, 5 scan functions: Band; Memory; Memory channel lockout with selectable stops; Priority. Programmable call channel, auto. repeater offset. backlit DTMF mic. 6" w x 1" h x 7" d, 1" lbs.

YAESU FT-7400H • Same features as FT-2400, but UHF is 35W and 430-450MHz coverage.



YAESU FT-411E (C) • 2m FM Handheld. 144-148MHz tx, 140-174MHz rx. 2" w LCD readout, keypad and rotary-dial frequency. Dual VFOs, 49 memories, scanning, DTMF autodialer with 10 memories. Encoder/decoder, battery saver, automatic power off 5" h x 2" w x 1" d, .85 lb.

*See page 70
for New
FT-11R41R*

YAESU FT-811 (A) • 2w, 430-450MHz

YAESU FT-911 (A) • 1w, 1.2GHz

YAESU FT-470 (B) • 2m/440MHz, 2.3w, FM handheld. Similar to FT-411/811 above. Simultaneous receive, both bands, 21 memories/band. 6" h x 2" w x 1" d, .88 lbs.

YAESU FT-416 (D) • Compact 2m FM HT. 144-148MHz tx and 130-174MHz rx. 2W out. Dual VFOs, 41 tunable memories. DTMF paging and coded squelch, autodialer, CTCSS encode/decode, VOX. 2" w x 5" h x 1" d, 12" oz.

YAESU FT-816 • Similar to FT-416 but 70cm-430-450MHz receive and transmit, 2W output.

YAESU FT-26/25 • 2-meters, 2W, 130-174MHz receive and 144-148MHz transmit. Like FT-415 without TTP.

YAESU FT-26/27 • 2-meters, 5W, 130-174MHz receive and 144-148MHz transmit. Like FT-415 without TTP

YAESU FT-76/25 • 70cm, 2W, 430/450 MHz tx-rx.

YAESU FT-23R-17 (E) • 2m FM HT 2.5w output (up to 5W with optional battery). Rotary dial frequency entry, LCD display, 10 full-function memories, scanning, priority channel. Rugged and weatherproofed. 4" h x 2" w x 1" d, 1 lb.

FT-23R-12 • as above but 2m, 5W

FT-33R • 220 MHz FM, 5W

YAESU FT-530 (D) • 2.5W Dual-Band 2m/70cm. 140-150 and 430-450MHz tx, 130-174 and 430-450MHz rx. Dual in-band receive, 41 memories per band, DTMF paging and coded squelch, clock with timers, battery saver, backlit keypad, cross-band repeat function, two VFOs per band; VFO and direct keypad entry. Automatically adjusts output level according to received signal strength. 5" w x 2" d 1" 0.9 lb.

Due to foreign currency fluctuations, prices are not shown on this page. Call Toll Free for latest Sale Prices, Monthly Specials, Coupons, etc.



YAESU

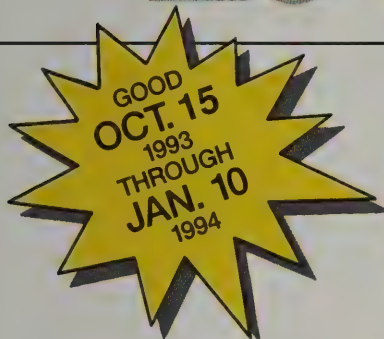
HOLIDAY SPECIALS

\$100.off



FT-1000D/FT-1000

Plus
Special Bonus
Limited Edition
Embroidered
Jacket
(\$169.00 Value)



FT-990/FT-990DC

\$50.off

\$35.off



FT-890AT/FT-890



FT-767GX,
FT-736R



FT-840



FT-747GX



FT-5100

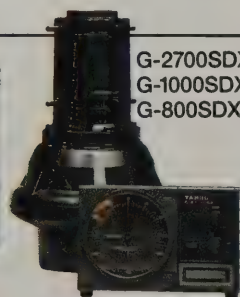


FT-5200/6200



FT-530

FT-470



G-2700SDX
G-1000SDX
G-800SDX

\$25.off

\$15.off



FT-2400H



FT-2200



FT-411E

FT-416/816

CUSTOMER: Surrender this coupon at time of purchase to your authorized Yaesu dealer for discount. Limit one coupon per purchase. Coupon is non-transferable and can be only used for products as advertised in this ad and for the discounts as stated. Offers only good at authorized U.S. and Canadian Yaesu dealers. **DEALER:** Send this coupon along with a copy of sales receipt to YAESU U.S.A., Sales Dept., 17210 Edwards Rd., Cerritos, CA 90701.

CHECK BOX

- ☐ \$100 OFF FT-1000D/FT-1000
FREE also with purchase of FT-1000D or FT-1000, Limited Edition Embroidered Yaesu Jacket. Dealer will provide redemption coupon for jacket.
- ☐ \$ 50 OFF FT-990DC/FT-990
- ☐ \$ 35 OFF FT-890AT/FT-890, FT-840, FT-767GX, FT-736R, FT-747GX
- ☐ \$ 25 OFF FT-5100, FT-5200/6200, FT-530, FT-470, G-2700SDX, G-1000SDX, G-800SDX
- ☐ \$ 15 OFF FT-2400H, FT-2200, FT-416/816, FT-411E

MODEL PURCHASED _____

SERIAL NUMBER _____

DATE OF PURCHASE: _____

YOUR NAME: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE: _____

CALL SIGN: _____

DEALER NAME/STATE: _____

Coupon offer valid in USA and Canada only. Offer void where prohibited by law. Coupon has no cash value. Limit one coupon per purchase. Not valid with any other Yaesu offers or discounts. Offers not applicable to purchases made prior to October 15, 1993 or after January 10, 1994.

O.K. for Phone Orders • Ends January 10, 1994 – Call for latest Coupon Deals!
AES® will fill out and submit Coupon, except for jacket.

FT-11R/41R 2m/70cm Handhelds

- **Frequency Coverage:**
Wide Receiver Coverage:
FT-11: 110-180 MHz RX,
144-148 MHz TX
FT-41: 430-450 MHz RX/TX
- Selectable Alpha Numeric Display
- New Compact Battery Design
4.8V produces 1.5 Watts
9.6V produces Full 5 Watts
- 150 Memory Channels
(75 when Alpha Numeric)
- AM "Aircraft" Receive
(110-136 MHz)
- Small Compact Size w/ Easy Operation (measures only:
4"H x 2 1/4"W x 1"D)
- Rx/Tx Battery Savers
- High-efficiency MOS FET Power Module
- Large Back-Lit Keypad and Display
- Up/Down Volume/Squelch Controls
- Built-in DTMF Paging/Coded Squelch
- Automatic Power Off (APO)
- **Accessories:**
FNB-31 4.8V, 600 mAh Battery
FNB-33 4.8V, 1200 mAh Battery
FNB-38 9.6V, 600 mAh Battery
FBA-14 6 AA Size Battery Case
FTS-26 CTCSS Decode Unit
NC-50 Dual Slot 1-Hour Desk Charger
CA-10 Charge Adapter
(required w/ NC-50)
Contact your Dealer
for full details.

Not type-accepted at the time this catalog was printed

"Look, alphanumeric display and a 4.8V battery. Terrific!"

"Small and thin - with a full sized keypad! How'd they do that?"

"Yaesu did it again!"



NEW Alphanumeric Display

First time for Yaesu HT Full function LCD combines letters and numbers.

NEW Up/Down Thumb Control with Volume and Squelch Bar Graph. No other radio has this. Back lit, too!

NEW Compact Battery Design 4.8V gets you 1.5 Watts. A first for amateur radio.

Get a grip on this!

World's smallest size HT with a full sized keypad Measures only: 4"H x 2 1/4"W x 1"D

Small" is relative, isn't it? It could mean size - which in this case it does. And, it could mean "reduced", which it doesn't! Nothing missing from the hot new FT-11R HT from Yaesu except bulk! You're going to wonder just how all the features of this full-function radio fit in. Until you remember Yaesu pioneered 2-way radio micro technology.

To see what this really means to you,

check out all the new features. Like the alphanumeric display. This Yaesu HT first, lets you tag your favorite frequency by name, call sign or number. Or, the new "voltage stingy" battery. It's an industry first for amateur radio. Smaller and compact, the 4.8V battery gives you 1.5 watts on TX. And, if that's not enough, there's an optional drop in, dash mount battery charger.

You see it's not a small time performer. Just small sized. The FT-11R. Another small example of Yaesu superiority. See your dealer today!

YAESU

Performance without compromise.

© 1993 Yaesu USA, 17210 Edwards Road, Cerritos, CA 90701 (310) 404-2700

Specifications subject to change without notice. Specifications guaranteed only within amateur bands. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.



"The FT-416 comes in black - or gray!"

"New sculpted design, built-in VOX,
back-lit DTMF pad, Yaesu's
"Straight A's"! Wow!"

"Yaesu did it again!"

FT-416/816 2-Meter/70cm Handheld

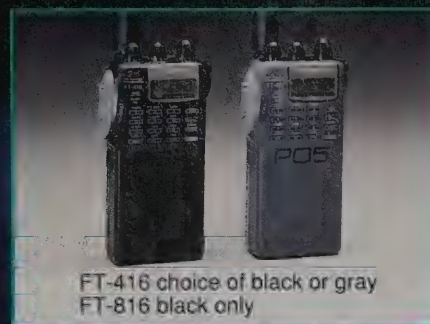
- Frequency Coverage
FT-416: 130-174 MHz RX
144-148 MHz TX
FT-816: 430-450 MHz RX/TX
- 41 Memories (Odd splits on any channel)
- 4 TX Power Levels
w/FNB-25 2.0, 1.5, 1.0, 0.5W
w/FNB-27 5.0, 3.0, 1.5, 0.5W
- CTCSS Encode/Decode
- ATS, Automatic Tone Search
- ATT, Advanced Track Tuning
- ABS, Automatic Battery Saver
- APO, Automatic Power Off
- Direct 12V DC Input (5 Watts Output) 5 Watts w/FNB-27 Battery
- Back-lit Keypad and Display
- DTMF Paging and Coded Squelch
- Built-in VOX
- **Accessories:**
Compatible with most FT-530 and FT-415 Series accessories. Selected batteries in gray.

In great design "form follows function." Only then does breakthrough design evolve. Our new generation of HTs exemplifies this with the exciting FT-416.

An industry first, a choice of colors - traditional black or new-age gray, and a dynamic ergonomically sculpted case that fits your palm like a friend's handshake are only the beginning. New ridged Control Knobs with numbered VOL insure perfect tuning. And, there's a new molded PTT with functions so perfectly aligned they respond to the slightest thumb flex.

Packed with features, the FT-416 has built-in VOX, four-way scan, the largest, brightest DTMF key pad in its class and Yaesu's famous "Straight A's": ATS - Automatic Tone Search, ATT - Advanced Track Tuning, ABS - Automatic Battery Saver and APO - Automatic Power Off. And, Power Output up to 5 Watts.

During testing amateurs found this newest evolution in design remarkably unique. "You have to try it to believe it!", they said. So we invite you to do just that. Contact your Yaesu dealer today and find out what true evolution in design means to you.



FT-416 choice of black or gray
FT-816 black only

YAESU

Performance without compromise.™

The newest evolution in design.

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"Dual Decode. Now that's a first!"

"Built-in VOX? Right!"

"Wow, a real Battery Voltage Readout!"

"Yaesu did it again!"

FEATURES	Yaesu FT-530	Kenwood TH-78A	Alinco DJ-580	Icom IC-W-21AT
Memory Channels	82	50	40	70
Slide-out Lithium Battery	YES	NO	NO	NO
Dual CTCSS Decoder	YES	NO	NO	YES
Battery Voltage Readout	YES	NO	NO	NO
Automatic CTCSS Tone Search	YES	NO	NO	NO
Transmit Battery Saver (Repeater & Simplex Operation)	YES	NO	NO	NO
Built-In Vox	YES	NO	NO	NO
One Touch Reverse Button	YES	NO	NO	NO
Dual In-Band Receive (V+V, U+U)	YES	YES	NO	YES
Programmable External Speaker Audio	YES	NO	NO	YES
Optional Digital Display Mic with "S" Meter	YES	NO	NO	NO
AM Aircraft Receive	YES	YES	YES	YES

You can always count on...

AES®

To stock **YAESU** products
for Prompt Shipment, and for
Service after the Sale.

The Best vs. "the rest."

FT-530 Dual Band Handheld

- **Frequency Coverage:**
2-Meter 130-174 MHz RX
144-148 MHz TX
70 cm 430-450 MHz RX/TX
- 4 TX Power levels:
w/FNB-25: 2.0, 1.5, 1.0, 0.5W
w/FNB-27: 5.0, 3.0, 1.5, 0.5W
- DTMF Paging and Coded Squelch
- AOT - Auto On-Timer with built-in clock and alarm functions
- IBS - Intelligent Band Select (provides automatic TX band select on scan stop)
- Backlit keypad and display with time delay
- Built-in cross-band repeat function
- APO - Automatic Power Off
- 5 Watts output w/ FNB-27 battery or 12 VDC
- 2 VFO's for each band
- **Accessories:**
NC-42 1-Hour Desk Charger
FNB-25 600 mAh Battery (2 watt)
FNB-26 1000 mAh Battery (2 watt)
FNB-27 600 mAh Battery (5 watt)
FBA-12 6 AA Cell Holder
CSC-56 Vinyl Case w/ FNB-25
CSC-58 Vinyl Case w/ FNB-26/27
E-DC-58 12 VDC Adaptor
YH-2 Headset for VOX
MH-12A2B Speaker Mic
MH-18A2B Lapel Speaker Mic
MH-19A2B Mini Earpiece Mic
MH-29A2B LCD Display Mic with Remote Functions
MMB-54 Mobile Mounting Hanger



No other dual band handheld beats the FT-530 on features for performance and ease of use. With the largest backlit keypad available, 82 memories, exclusive Dual CTCSS Decode and AM Aircraft Receive, the FT-530 is simply the best value there is.

Compare for yourself, then forget "the rest." See your dealer for the best dual band handheld you can buy. The FT-530.

YAESU
Performance without compromise.SM

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Specifications subject to change without notice. Specifications guaranteed only within amateur bands. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.

FT-2200/7200 2-m/70-cm Mobiles

- **Frequency Coverage:**
FT-2200
RX: 110-180 MHz
TX: 144-148 MHz
FT-7200
RX/TX: 430-450 MHz
- 50 Memory Channels
- Wide Receiver Coverage:
110-180 MHz
- AM "Aircraft" Receive:
110-139 MHz
- Built-In DTMF Paging/Coded Squelch
- Power Output 50/25/5 Watts
- CTCSS Encode Built-In
- 10 Memory DTMF Auto Dialer
- Selectable Channel Only Display
- Remote Operation w/ Optional MW-2
- Optional Digital Voice Storage System
- Backlit DTMF Mic
- **Accessories:**
FTS-27 CTCSS Decode Unit
DVS-3 Digital Voice System Unit
MW-2 Remote Control/Wireless Mic
SP-7 External Speaker

"The FT-2200 answers my problem! It fits anywhere, and the 3 power levels are great!"

"Yaesu did it again!"

"I like the FT-2400H!"

"Rugged performance is my answer!"

FT-2400/7400H 2-m/70-cm Mobiles

- **Frequency Coverage:**
FT-2400H
RX: 140-174 MHz
TX: 144-148 MHz
FT-7400H
RX/TX: 430-450 MHz
- Rugged Mil-Spec Design
- Advanced Track Tuning (ATT)
- 31 Memory Channels
- Wide Receiver Coverage:
140-174 MHz
- Selectable Alpha-Numeric Display
- Largest 2-Meter Display Available
- CTCSS Encode Built-In
- Power Output
50/25/5 Watts
- Flip Up Front Control Panel
Hides Seldom Used Buttons
- Backlit DTMF Mic
- **Accessories:**
FTS-17A CTCSS Decode Unit
FRG-6 DTMF Paging Unit
SP-4 External Speaker
FP-700 Power Supply

For your sleek compact car, the sculptured FT-2200 looks terrific. With leading-edge features, performance and reliability too, it's the perfect answer to your 2-m needs.

At 5.5"W x 1.6"H x 6.5"D the FT-2200 installs nearly anywhere. And, it does "lead" with features like optional Remote Control Wireless Mic – first in the world for any 2-m mobile and AM Aircraft Receive – first in a Yaesu mobile. Performance? The FT-2200 has more than twice the memories of the competition! Reliability? Its bright, new LCD display and backlit DTMF Mic makes night mobilizing safe. Features, performance, reliability – in a powerful little package. See your dealer for *this* answer to your 2-m needs.

The Yaesu FT-2400H set the standard by which all 2-m mobiles are judged. The first and only amateur radio to pass rugged MIL STD 810D tests for shock and vibration, its one-piece die-cast chassis with extra large heat sink gives years of trouble-free operation.

With 50 watts of TX power, large alpha-numeric display, auto display dimmer, exclusive backlit DTMF Mic and advanced track tuning front end for superior receiver performance, the popular FT-2400H is the choice of amateurs in the know.

Features, performance, reliability – ready to go anywhere. See your dealer for *this* answer to your 2-m needs.

NEW



Yaesu answers your 2-m mobile needs.



YAESU
Performance without compromise.™

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Specifications subject to change without notice. Specifications guaranteed only within amateur bands. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.

"Built-in duplexer and 94 memories!"

"Great price and smallest dual band made, too!"

"Comes with a backlit DTMF Mic!"

"Yaesu did it again!"

FT-5100 Dual Band Mobile

- **Frequency Coverage:**
2M: 130-174 MHz RX
144-148 MHz TX
70 cm: 430-450 MHz RX/TX
- 94 Memories (47 per band)
Odd Splits In Any Memory
- Dual in-band receive
(V/V, U/U or V/U Receive Operation)
- DTMF Paging and Coded Squelch Included.
- Packet Radio TNC Jack Built-In To Back of Radio
- CTCSS Encode Built-In
- Dual Receive with Balance Control
- Full Duplex Cross Band Operation
- Built-In Antenna Duplexer
- Back Lit DTMF Microphone
- Automatic 8 Level Display Dimmer
- Built-In Cross Band Repeat
- RF Output Power:
2M: 50/5 watt (high/low)
70 cm: 35/5 watt (high/low)
- **Accessories:**
FTS-22 CTCSS Dual Decoder
SP-7 External Speaker
MW-1 Wireless Microphone/Controller

The ultimate definition of Dual Band.



Now you can listen to two, 2 meter frequencies, or two, UHF frequencies, at the same time with In-Band Dual Receive*. Although equipped with traditional dual band, Yaesu has taken receive two steps beyond in the remarkable FT-5100. Combined in one compact mobile transceiver, it's the ultimate meaning of "dual band".

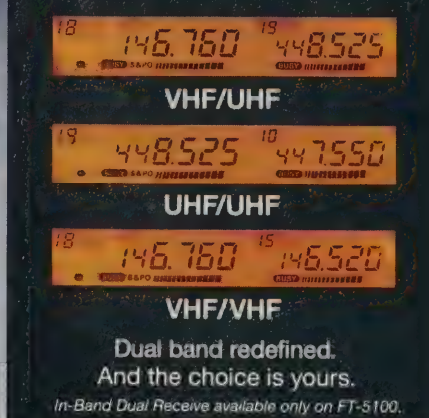
With 94 memory channels – more than any other radio in its class – and the optional MW-1 Wireless Mic, the flexibility of the FT-5100 is matchless. But to make sure the FT-5100 is complete, and an even better value, unlike the competition, there's a backlit DTMF mic included.

Through advanced miniaturization technology you'll find practical additions like the built-in antenna duplexer – an option on similar transceivers – and equally important, DTMF paging and coded squelch. All in the smallest dual band made!

Priced for the shrewd buyer, you've got to hear it to believe it. Dual band re-defined. Combinations like this can't

*In-Band Dual Receive available only on FT-5100.

Three Dual Receive Configurations



Dual band redefined.
And the choice is yours.

In-Band Dual Receive available only on FT-5100.

Here's another Yaesu exclusive!
The MW-1 Wireless Mic
with Remote Control.



be found anywhere else, so contact your nearest Yaesu dealer and tell him you want the "ultimate dual band". The FT-5100.

FT-5200 Dual Band Mobile.

Offers the security of a quick release front control panel (not available on the FT-5100), 32 memories, DTMF paging (w/optional FRC-4), Back-lit mic, built-in antenna duplexer and more.



YAESU

Performance without compromise.SM

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Specifications subject to change without notice. Specifications guaranteed only within amateur bands. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.

FT-5200/6200 Dual Band Mobiles

• Frequency Range:

- FT-5200
- 2M: 140-174 MHz RX
140-150 MHz TX
- 70 cm: 430-450 MHz RX/TX
- FT-6200
- 70 cm: 430-450 MHz RX/TX
- 23 cm: 1240-1300 MHz RX/TX
- 32 Memories (16 per band)
- Odd splits on any memory
- CTCSS Encode Built-In
- Dual Receive with Balance Control
- Full Duplex Cross-Band Operation
- Built-In Antenna Duplexer
- Backlit DTMF Microphone
- Automatic 8 Level Display Dimmer
- Built-In Cross-Band Repeat

• RF Output Power:

- 2M: 50/5 watt (high/low)
- 70 cm: 35/5 watt (high/low)
- 23 cm: 10/1 watt (high/low)

• Accessories:

- FRC-4** DTMF Paging Unit
- YSK-1L** 20' Trunk Mounting Kit
- FTS-22** CTCSS Dual Decoder
- SP-7** External Speaker
- DVS-3** Digital Voice Recorder Unit
- MW-1** Wireless Microphone /Controller

"The FT-5200 is the smallest dual-band transceiver made, and I can mount it anywhere!"

"Yaesu did it again!"



What weighs 5 oz., lights up, snaps off and fits in your pocket?

Don't have the answer? Yaesu does. It's the exclusive removable front control panel of the FT-5200/6200 – the smallest, lowest priced dual-band mobile radios made.

With the use of the optional adjustable control panel bracket kit, you can conveniently mount the "smallest" control panel almost anyplace in your car and mount the transceiver body out of sight. When you leave your car, snap off the 5 oz. front control panel and take it with you. Now your rig's secure. For safer autopatch operation at night, you'll find another Yaesu exclusive – a back-lit DTMF mic. And there's also a built-in antenna duplexer and easy-to-read dual full-frequency liquid crystal display.

Now you have the answer, too. The FT-5200 – packed with features, affordably priced. Don't have one? Better contact your dealer today!

Here's another
Yaesu exclusive!
The MW-1 Wireless Mic
with Remote Control.



YAESU

Performance without compromise.SM

NEW

"What a great field radio. Mobile, too! I couldn't afford an HF rig until now.."

"What a great price! Terrific features, high performance – and within my budget."

"Yaesu did it again!"



FT-840 Compact HF Transceiver

- Direct Digital Synthesis (DDS)
- Frequency coverage:
RX: 100 kHz-30 MHz
TX: 160-10 m
- IF Shift
- 100 Memory Channels
(Independent TX/RX per memory)
- Twin Band Stacking VFOs
- FM* Repeater Operation
Automatic 10-Meter
Repeater Offset
w/Selectable CTCSS
Encode
- CW Reverse Feature
- Choice of Two Optional
Antenna Tuners:
FC-10 Matching External
Antenna Tuner
FC-800 External Remote
Antenna Tuner
- **Accessories:**
Contact your Dealer for
full details.
- **Optional**

It's a small price to pay for such a wealth of features.



If you're trading up from an older rig, but have a budget, you want the most you can afford in top-notch HF. Then the FT-840 is for you. It's right on the money! Considering a mobile HF or field radio and doubt the quality and features of tiny HF rigs? Then the FT-840 is for you. It won't disappoint you!

Built to handle rigorous field operation, the new intense LCD display affords sharp visibility in bright sun-

light. Die-cast heat sink and internal thermally switched fan keep the FT-840 running cool. Modular design circuit boards ensure operating efficiency – manufacturing excellence you'd expect in much higher priced radios.

For high performance, the FT-840 features a low noise front end that uses the latest in FET RF amplifier design. Two DDSs and magnetic encoder for silent, smooth tuning and fast switching. Twin band-stacking VFOs. And,

automatic 10-m FM (optional) repeater offset with selectable CTCSS. Even two optional external antenna tuners to customize your rig.

Top of the line quality and features at a remarkably low price. Just what you'd expect from Yaesu! For high-tech performance, and a wealth of features that won't break your budget ask your dealer about the FT-840.

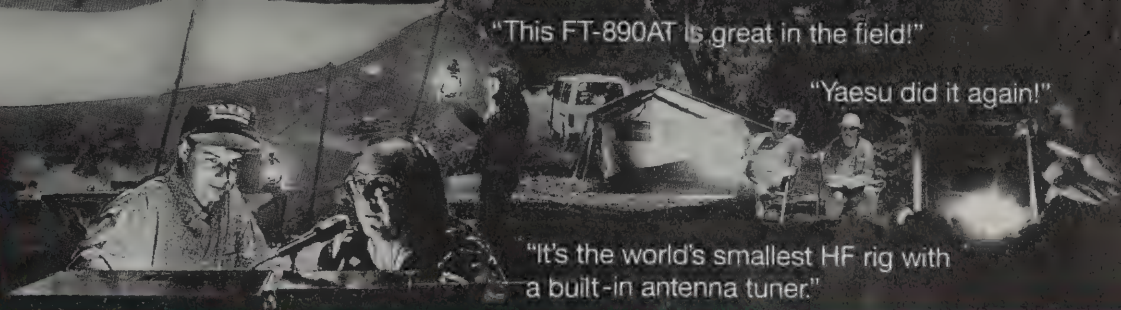
YAESU

Performance without compromise.™

FT-890AT

Compact HF Transceiver

- Automatic Antenna Tuner Hybrid High Speed Design Covers 160-10 meters
- I.P.O. Intercept Point Optimization
- DDS-Direct Digital Synthesis
- F.S.P. Frequency Shift Speech Processor
- General Coverage Receiver 100 KHz to 30 MHz
- Pass Band Shift and 30db Notch Filter
- Noise Blanker with Adjustable Pulse Width
- Built-In Iambic Keyer
- 32 Memories plus 20 VFOs
- FM Repeater Operation Automatic 10 Meter Repeater Offset w/Selectable CTCSS Encode
- All Mode Squelch
- DFCS-Duct Flow Cooling System
- **Accessories:** Contact your Dealer for full details.



"This FT-890AT is great in the field!"

"Yaesu did it again!"

"It's the world's smallest HF rig with a built-in antenna tuner."

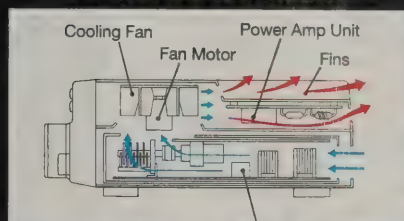
Field days and contesting are challenging. We built the FT-890AT for times when you need the high performance of a base station – like the FT-1000 – but the practicality of a compact, rugged mobile. In fact, the FT-890AT is the mobile version of the FT-1000. Designed to be the world's smallest HF with a built-in antenna tuner, its superior receiving performance is a direct result of FT-1000 technology.

Since field work is demanding, the front panel has been simplified. Seldom used VOX controls are on the back. For faster TX/RX switching, the FT-890AT has two direct digital synthesizers (DDSs). With its unique duct flow cooling system, die-cast aluminum upper case and heat sink, the FT-890AT can't be beat for superior field work and DX-peditions.

Not just a "field" radio, with the optional FP-800 AC Power Supply, MD-1C8 Desk Mic and YH-77ST Headphones you've got a performance-plus base station loaded with features and affordably priced.

To see what that means for you, contact your Yaesu dealer today.

Duct Flow Cooling System (DFCS)
Rugged aluminum top panel heat sink and internal thermally switched fan draws air through the heart of the transceiver.



Built-in Antenna Tuner
Tunes most antennas 160-10 meters

YAESU
Performance without compromise.

If you can get an HF this compact with a built-in antenna tuner -- why not!



DVS-2 (Optional)
Digital Voice Recorder
with 16 seconds of memory
each on RX and TX.

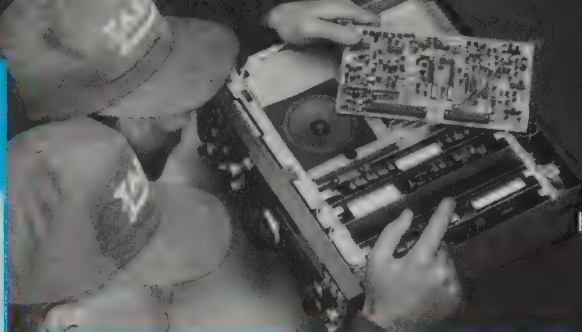
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Specifications subject to change without notice. Specifications guaranteed only within amateur bands. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.

FT-990

All-Mode HF Transceiver

- **Frequency Coverage:**
100 kHz – 30 MHz RX
(160-10 m TX)
- Built-in Dual Digital Switched Capacitance Filters
- Built-in High Speed Antenna Tuner w/39 Memories
- RF FSP (RF Frequency-Shifted Speech Processor)
- Dual VFOs with Direct Digital Synthesis (DDS)
- 90 Memories which store Frequency Mode and Bandwidth
- Full and Semi Break-in CW Operation
- Band Stacking VFO System
- Multi-mode Selection on Packet/RTTY; Easy Interface to TNCs
- Adjustable RF Power
- Variable Threshold Noise Blanker
- Optional Digital Voice Recorder (DVS-2)
- Front Panel RX Antenna Selection
- **Accessories:**
FT-990DC Available without power supply
XF-10.9M 2nd IF SSB Narrow 2.0 kHz Filter
XF-455K 3rd IF CW Narrow 250 Hz Filter
TCXO-2 High Stability TCXO
SP-6 External Desk-top Speaker
MD-1C8 Desk Microphone
DVS-2 Digital Voice Recorder Unit
YH-77ST Lightweight Headphones
LL-5 Phone Patch Unit for SP-6 Speaker



"Yaesu did it again!"

"This is the only HF rig with a dual digital SCAF. It's incredible on a crowded band. Look inside, motherboard and plug-in board design. Un-be-liev-able!"

The innovative technology of the FT-990 is inside, not outside. Like the exclusive dual digital SCAF (Switched Capacitance Audio Filter). And for long term reliability, the motherboard/plug-in module construction eliminates inter-board wiring. The FT-990 also has the same undisputed receiver performance of the FT-1000 as well as other features such as a high-speed, built-in antenna tuner with automatic storage. And, multiple DDS (Direct Digital Synthesis) for quick lock-up time and low level noise. What's more, for maximum efficiency, the FT-990 is a self-contained base station with its space-saving, built-in AC power supply.

Outside, the very functional HF front panel is simple and uncluttered with a large amber display. Easy to use, easy to see. Pure and simple QSO enjoyment – with muscle when you need it! Yaesu makes "high-tech" effortless. Now it works for you, not against you. Have your dealer show you the FT-990 today and see what we mean.

FT-990DC now available.

NEW



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High-tech innovation isn't miniature knobs, switches, and tiny labels.

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"200 watts, real cross band receive,
even two flywheel-weighted
main knobs!"

"Right, there's only
one real performer –
the FT-1000."

"Yaesu did it again!"

FT-1000 All Mode HF Transceiver

- RF Power Output:
Up to 200 Watts
- True Cross-band Dual Receive:
Two Large Tuning Knobs
- Front Panel RX Antenna
Switch: For Beverage or Loop
- Direct Digital Synthesis (DDS)
- Automatic Antenna Tuner:
Built-in, 30 Memories
- Frequency Range:
100kHz-30MHz (RX),
160-10 meters (TX)
- 100 Memories: Independent
ATU and Mode/IF Filter
Memory
- CW Spot and Two CW Key
Jacks for Maximum
Convenience
- Dynamic Range: 108 dB
- Optional Digital Voice Recorder
(DVS-2): 16 Seconds Each
RX/TX
- Accessories:
SP-5 External Desk-top
Speaker
LL-5 Phone Patch Unit
MD-1C8 Desktop Microphone
YH-77ST Stereo Headphones
FL-7000 500W Linear Amplifier
DVS-2 Digital Voice Recorder

Hear signals you've never heard before.



You're a competitor. You want optimum receiver performance and you want "muscle" on transmit. First with 200 watts – more power than any competing transceiver – and "hand warm" at maximum RF. It's easy to see why the FT-1000 has been judged "best overall" by top DX'ers worldwide.

For elite-class contesting and DX operation, exclusive features maximize your score. Dual Receive – Watch a multiplier or new country on one frequency, run QSOs on another. Diversity Reception – Use two antennas at different heights or opposite polarization. Extensive Cascaded IF Filtering – For "low end" battles.

Dramatic front panel design features two flywheel-weighted tuning knobs, RX antenna selector and two large displays.

A perfect blend of electronics and human engineering, the FT-1000 is the Best of our Best!

To hear signals you've never heard before and get the competitive edge, see your Yaesu dealer today.

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Our rotators keep

NEW!

**Computer Controllers
for Rotators
Now available
from Yaesu!**

**GS-23 Computer Controller
for Rotators:**

G-800SDX
G-1000SDX
G-2700SDX

**GS-232 Computer Controller
for Satellite Rotator:**

G-5400B



G-1000SDX
Medium-heavy duty HF
and large VHF/UHF
arrays; illuminated
radial compass display;
variable rotating
speed with pre-sets.

G-2700SDX
Large tower-
mounted antennas;
illuminated radial
compass display;
variable rotating
speed with
pre-sets.

Not shown: G-800S, G-800SDX

Specifications subject to change without notice. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.

YAESU G-800S • Medium/Heavy-duty for medium/large arrays. Looks like G-1000SDX. SDX - variable speed & presets.

Specifications

Rotor diameter..... 7½ in.
Rotor height..... 12½ in.
Max. antenna wind load... 21 sq. ft.
Rotation torque..... 43-79 ft./lbs.
Stationary torque..... 288 ft./lbs.
450° rot. (S) 55 sec, (SDX) 43-93 sec.
Mast diameter..... 1½-2½ in.
Rotor cable required ... 5-conductor
Shipping weight..... 17 lbs.

AES PRICE (S) **CALL** (SDX) **CALL**

YAESU G-1000SDX • Deluxe-Heavy-duty for Large HF arrays. Full 450° rotation with control box presets.

Rotor diameter..... 7½ in.
Rotor height..... 12½ in.
Max. antenna wind load... 23 sq. ft.
Max. vertical load..... 1760 lbs.
Rotation torque..... 43 to 79 ft./lbs.
Stationary torque..... 433 ft./lbs.
450° rotation time..43 to 93 seconds
Mast diameter..... 1½-2½ in.
Rotor cable required ... 5-conductor
Shipping weight..... 19 lbs.

AES PRICE..... **CALL**

YAESU G-2700SDX • Deluxe-Heavy-duty & high-tech, for Very Large amateur arrays. 450° rotation with presets.

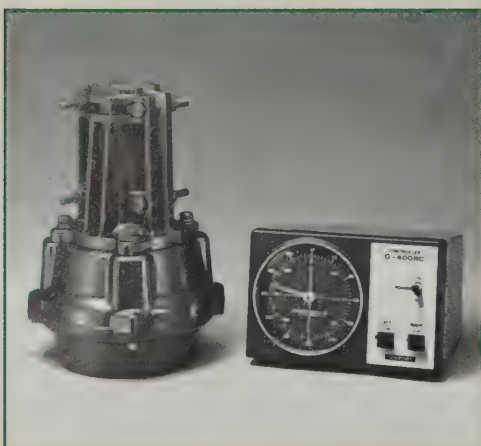
Rotor diameter..... 10 in.
Rotor height..... 14 in.
Max. antenna wind load... 34 sq. ft.
Vert. load.. 880 lbs/1760 momentary
Braking torque..... 1736 ft./lbs.
Rotation torque.. 57.9 to 217 ft./lbs.
450° rotation time40 to 120 seconds
Mast diameter..... 1½-2½ in.
Rotor cable..... 6-conductor
Shipping weight..... 30 lbs.

AES PRICE..... **CALL**

YAESU G-400RC (left) • Light/medium-duty for small HF & medium to large UHF/VHF, FM & TV antennas.

Rotor diameter..... 7½ in.
Rotor height..... 11½ in.
Max. antenna wind load..... 11 sq. ft.
Rotation torque..... 43.3 ft./lbs.
Stationary torque..... 145 ft./lbs.
360° rotation time..... 50 seconds
Mast diameter..... 1½ to 2½ in.
Rotor cable required 5-conductor
Shipping weight..... 17 lbs.

CLOSEOUT **CALL**



Computer Control Interfaces

Control your Yaesu rotator from the serial port of your Personal Computer!.

The GS-23 is an optional expansion board that can be installed in the Controller Unit of the Yaesu G-800SDX, G-1000SDX and G-2700SDX for azimuth control, and also can be used with the G-500A when coupled through the optional GX-500 Automatic Control Adapter.

The GS-232 is the same board mounted in an external box for use with the G-5400B, or with the G-400/G-500A combination which requires two GX-500 Control Adapters.

you spinning.

G-500A
Elevation rotator
for space
communication
antennas.

G-5400B
Azimuth-Elevation
combination
for space
communication
antennas; DIN
computer
connection.



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For the best choice in rotators, and the only rotators manufactured by a major amateur radio manufacturer, see Yaesu! Choose from antenna rotators capable of handling light-duty TV antennas to large HF arrays as well as Azimuth-Elevation combinations for satellite applications.

Yaesu rotators are designed for smooth and quiet operation without noisy wedge brakes that can irritate your neighbors and are housed in weatherproof, die-cast aluminum enclosures permanently lubricated for maintenance-free operation. And, they're compatible with most U.S. manufactured antenna tower accessory shelves. To insure maximum satisfaction, Yaesu rotators are backed by a One-Year Warranty and 35-plus years of radio communication engineering know-how.

Contact your Yaesu dealer for full details and specifications and keep your antennas spinning!

YAESU
Performance without compromise.SM

YAESU G-500A • Elevation rotator, for satellite earth station and other space communication antennas. 180° rotation.

Rotor diameter 7½ in.
Rotor height 10½ in.
Max. antenna wind load .. 12 sq. ft.
Rotation torque 73 ft./lbs.
Stationary brake torque.. 144 ft./lbs.
180° Elev. rotation time 61 seconds
Mast diameter 1½–2½ in.
Boom diameter 1¼–1½ in.
Rotor cable required... 6-conductor
Shipping weight 16 lbs

AES PRICE **CALL**

YAESU G-5400B • Light/Medium duty Azimuth-Elevation rotator combo, for satellite or moonbounce applications.

Rotor diameter 7½ in.
Rotor height 12½ in.
Max. antenna wind load .. 11 sq. ft.
Max. vertical load 440 lbs.
Elev. rotation torque..... 101 ft./lbs.
Azimuth rotation torque 44 ft./lbs.
Elevation brake torque 289 ft./lbs.
Azimuth brake torque.. 145 ft./lbs.
180° Elev. rotation time 58 seconds
360° Azimuth rotation time 61 sec.
Pointing accuracy ± 4%

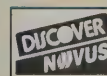
G-5400B specs continued...

Mast diameter 2 to 2½ in.
Boom diameter 1¼ to 1½ in.
Rotor cable required Two runs of six-conductor.
Shipping weight 32 lbs.

AES PRICE **CALL**
TIP: Use **BELDEN 8448** 8-wire rotor cable for these rotors. The extra wires may be used to control polarization shift, preamplifiers, etc.

Same Day Shipment...

Order Toll Free: 1-800-558-0411



Order Toll Free: 1-800-558-0411

FAX: (414) 358-3337

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1-800-327-1917

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Phone (813) 461-4267
No Toll Free Line

LAS VEGAS, Nev. 89106
1072 N. Rancho Drive
Phone (702) 647-3114
1-800-634-6227



Since 1957



ICOM IC-781 • 160-10M all mode with 100kHz-30MHz receiver, built-in antenna tuner and AC supply. 10-150W output. Dual VFOs, 99 memories and scan. 5" CRT spectrum scope indicates relative strengths of signals, clear spots, pile-ups, etc. Displays VFO frequencies, memory contents, function menus, notes, 15 operational screens, packet and AMTOR data. Dual Watch allows monitoring two frequencies simultaneously. RF speech processor, keyer and full break-in. Noise blanker, wide/narrow CW and SSB filters. Audio peak filter, twin passband tuning, CW pitch. RIT/XIT, receiver preamp and attenuator. 5 1/2" h x 16 1/2" w x 16 1/4" d, 51 lbs.



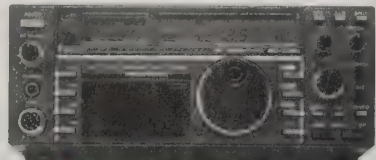
ICOM IC-765 • All-mode 160-10M transceiver with 100kHz-30MHz receiver, built-in automatic antenna tuner and AC supply. Full duty cycle, 10-100W output. Direct keyboard frequency entry, dual VFOs, 99 memories and scan functions. RF speech processor, electronic keyer and full break-in. Built-in IF shift, notch, CW pitch and CW narrow filter. Noise blanker, RIT/XIT, receiver preamplifier and attenuator. CI-V system for computer control. 5 1/2" h x 16 1/2" w x 16 1/4" d, 39 lbs.



ICOM IC-707 • All-mode 160-10M transceiver with 500kHz-30MHz receive. FM optional. Power continuously variable from 5 to 100W. (25W AM). Dual VFO's, 30 tunable memories-5 for transmit/receiver "split" operation. Large LCD display, front mounted speaker. Band Stacking Registers, 10dB preamp, 20dB attenuator, RIT, noise blanker. 12V DC @ 20A. Small!-9.4" w x 3.7" h x 9.4" d. 9 lbs.

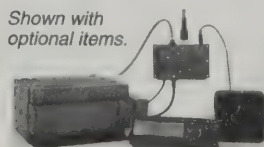


ICOM IC-737 • 100W, 160-10M all-mode with 500kHz receiver, built-in automatic antenna tuner and automatic antenna selector. Direct Digital Synthesizer System (DDS). Keypad for direct frequency entry and band selection. 101 memories, three types of scanning. Double band stacking register (DBSR), PBT and notch, RIT and ΔTX functions. Speech compressor, 10dB preamplifier and 20dB attenuator, all mode squelch, hand microphone. 13" x 4 1/2" x 11 1/4", 18 lbs.



ICOM IC-735 • Compact all mode 160-10M all-mode with 100kHz-30MHz receiver. Dual VFOs, 12 memories, programmed and memory scan. 10-100W output. AF speech compressor, full CW break-in, RIT, passband tuning, notch. Preamplifier and attenuator, noise blanker. Microphone included. 12V DC @ 20A. 3 1/2" h x 9 1/2" w x 9 1/4" d, 12 lbs.

Shown with
optional items.



ICOM IC-901 • Detachable remote controller - operate dash mounted, as a remote controlled under seat installation, or trunk mounted with optional interface/fiber optic-link. Covers 2m/50W and 440MHz/35W. Stack 5 optional band units: 6M, 10M, 20MHz, 1.2GHz and 144MHz SSB/CW.



ICOM IC-728 • 100W 160-10M all-mode, FM with optional module; 30kHz-33MHz receive range. Dual VFOs, 26 memories DDS, PBT, speech compressor, 3 scan functions, band stacking register, QSK operation, RIT, noise blanker, 10dB preamp and 20 dB attenuator, all mode squelch. 3 1/2" x 9 1/2" x 9 1/2", 10 lbs. Model **IC-729** adds 10W 6M transmit, and receive coverage of 30kHz-33MHz and 46.2-61.1MHz.



ICOM IC-725 • 160-10M SSB/CW (AM receive) transceiver with 30kHz to 33MHz receive. 10 to 100W output. Dual VFOs, 26 multi-function memories. Band, memory and memory mode scan. Full break-in CW, RIT, receiver preamplifier and attenuator. All mode squelch, noise blanker. 13.8V DC @ 20A. 3 1/2" h x 9 1/2" w x 9 1/2" d, 10 lbs.



Similar appearance and function. Dual VFOs, 99 memories, 4 scanning functions, priority. Packet compatible. Speech compressor, full or semi break-in, variable power output. Noise blanker, notch filter, PBT, narrow or wide filter switch, RIT, variable tone, all-mode squelch. 3 1/2" h x 9 1/2" w x 9 1/2" d, 13 1/2 lbs.

IC-575H • 28/50MHz, 100-100W, requires 12V DC @ 20A.

IC-275H • 2-meters, 10-100W, requires 12V DC @ 20A.



IC-229H • 2M, 50W. 140-150 MHz tx, 136-174MHz rx. 118-136 MHz aircraft band rx with modification. LCD display, 4 output levels. 20 tunable memory channels, programmable band edge markers, priority, memory scan, programmable band scan. 20dB RF attenuator, autodialer microphone with 14 DTMF memories. 12V DC @ 10A. 5 1/2" w x 1 1/2" h x 8 1/4" d.

IC-449A • Same as 229H but 440MHz, 35W, 12V DC @ 10A.

IC-3230H • 2m/440MHz (138-174/440-450MHz rx), 45W/35W. Dual VFOs, 42 memories. Optional remote control and voice read back. 12V DC @ 8A.

IC-2410H • Same as 3230H except dual in-band receive. **IC-28H** • 45W 2m FM xcvr w/TTP microphone.

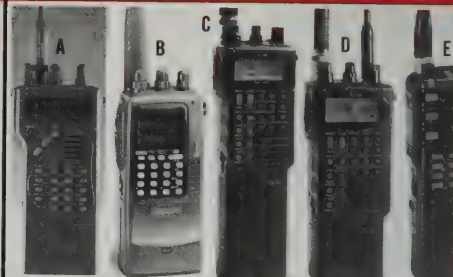
IC-228H • 45/5W 2m FM xcvr w/TTP mic., 20 memories, memory and band scan. 12V DC @ 10A. 2" h x 5 1/2" w x 5 1/2" d, 2.4 lbs.

IC-38A • 25W, 220MHz FM xcvr. DTMF mic. with band and memory tuning. 12V DC @ 6A. 2" h x 5 1/2" w x 5 1/2" d, 2.4 lbs.



ICOM IC-970A • Dual Band 25W, 2m/440MHz all-mode with optional 1.2 GHz operation and 50-905MHz receive. 396 memories and, 5 call channels. Auto frequency tracking, 10 memories for satellite work. Simultaneous dual band receive with multiple main and sub-band scan modes. Model **IC-970H** is 45W out, internal power supply built-in.

Due to foreign currency fluctuations, prices are not shown on this page. Call Toll Free for latest Sale Prices, Monthly Specials, Coupons, etc.



ICOM IC-Delta-1A (A) • Tri Band: 2m/70cm/1.2GHz. 140-150MHz, 440-450MHz and 1240-1300MHz. Ext. receive 138-174MHz for NOAA and public service broadcast. 2W out on 2m and 70cm; 5W with optional battery; 1W on 1.2GHz. 78 memories (26 per band) store frequency, offset tone and digital squelch settings. 4 DTMF autodialing memories, all PL tones, 24-hour clock with on/off timers. Separate controls and functions for each band. 5.7" h x 2.3" w x 1.9" d.

ICOM IC-W21AT (B) • Dual Band: 2m/440MHz, 144-148MHz rx and 440-450MHz tx/rx. 2.5W. 70 memories and one repeater quick memory per band. Cross-band direct output based on strength of received signal. DTMF p CTCSS encode, 4 DTMF memories. 4.9" h x 2.2" w x 1.9" d.

ICOM IC-W2A (C) • Dual Band: 2m/440MHz, 2W with extended receive capability for commercial/800MHz/aircraft. Simultaneous dual band receive, full duplex crossband operation. 30 memories and 1 call channel per band. Built-in p and code squelch, high speed scan, priority watch, programmable offset, 24-hour clock/timer. Autodialer w DTMF memories. 2 1/4" w x 6 1/4" h x 1 1/4" d, 1.2 lbs.

ICOM IC-2SRA (D) • 2 meters, 2W operation and multi 25-905MHz reception with simultaneous reception of two frequencies within 25-905MHz. 96 memory channels. 24 clock, 4 DTMF memory channels. Built-in pager and squelch. 5 1/2" h x 2 1/2" w x 1 1/4" d, 13 oz. **IC-4SRA** covers 440N

ICOM IC-26AT (E) • 2-meters (140-174MHz rx, 144-148 tx), 7W. Digital touch step tuning, 20 memories, programmable band and memory scan with lockout, programmable call channel and offsets. DTMF keyboard, 32 CTCSS encoder. 5 1/2" h x 2 1/2" w x 1 1/4" d, 1.1 lbs. **IC-46AT** covers 440-450MHz, 6W. **IC-126AT** covers 1240-1300MHz, 1W.



ICOM IC-2iA (A) • 2M, ultra-slim, 2.5W. 144-148MHz transmit, 138-174MHz receive. Selectable multi-function or simple mode. 102 memories, 16 DTMF autodial memories, programmable band and memory scan, 24-hour clock. Inter removable 400 mah battery pack. 2.4" w x 3.6" h x 1.2" d, 1 oz. Model **IC-4iA** covers 440-450 MHz.

ICOM IC-2SAT (B) • 2M, 144-148MHz, 138-173MHz receive. Internal 300 mah. battery provides 2W output. Up to 5W w 13.8VDC or with add-on battery options. Keyboard or dial frequency entry, 48 full-function memories with memory a band scan, 1 programmable call channel. LCD display a indicators for memory channel, offset, call channel, optional CTCSS. Clock/timer for auto turn-on. DTMF with 10 memories. 4" h x 1 1/2" w x 1 1/4" d, 10 oz. Model **IC-3SAT** covers 225MHz, **IC-4SAT** covers 440-450MHz.

ICOM IC-02AT/HP (C) • 2-meters, 5W output with supplied battery. Covers 140.0-150.0 MHz receive and transmit. Programmed and memory scan functions, priority watch. memories, programmable offset, DTMF keyboard and subaudible tone encoder. 8 1/2" h x 2 1/2" w x 1 1/4" d, 2 1/2 lbs. **IC-03AT** covers 220-225MHz, 2 1/2W output with supplied battery, 6 1/2" h.

A New Service at AES! - we now offer a 24-hour a-day Bulletin Board. Log in and find out about our latest prices and sales promotions, get technical help, download programs, leave messages & more! Call 1-414-358-3472 (8-N-1, up to 9600 baud)

All The Features You Want In *Your* Choice Of Bands

These new dual band transceivers —

IC-W21AT (2 M/440 MHz)
IC-X21AT (440 MHz/1.2 GHz)
IC-V21AT (2 M/220 MHz)
 offer unsurpassed performance and the kind of innovative features amateurs have come to expect from ICOM. Discover the difference!

And discover the features!

Repeater Quick Memory — stores the last-used repeater frequency and related information, providing speedy repeater access.

Optional Whisper Function for Telephone-Style Operation — provides telephone-style communication through a microphone-equipped battery pack (the optional BP-131 or BP-132 is required). Enjoy portable telephone-style full duplex crossband operation.

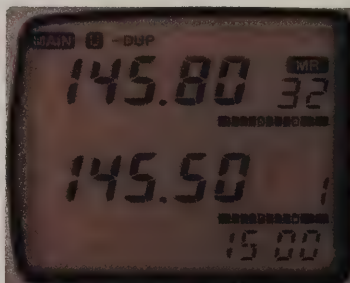
900 mAh Standard Battery — combined with the many power-saver features and low current drain, the standard battery provides greatly extended operating time.

Auto-Output Power Selection — automatically adjusts transceiver output power when communicating through a repeater.

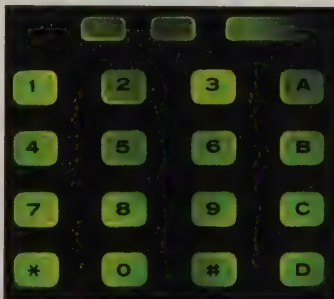
Five Levels of Output Power — with an external 13.8 VDC power supply, the IC-21AT dual band family outputs a powerful 5W of high power. In addition, 3.5W, 1.5W (standard), 500mW and miser output of 15mW can be selected for low power.

Battery Capacity Indicator — shows remaining battery capacity.

*Simultaneously Receive Two Signals on the Same Band— U/U, V/V, V/U**



The IC-21AT dual band family of radios features easy-to-read multifunction displays showing a variety of information, including battery capacity, repeater settings, etc.



Multifunction keypad with backlighting. The well laid out keypad puts access to multiple functions — several scan types, pager functions, etc. — at your fingertips. Each well spaced key provides a positive feel when depressed. No mistaken input.



IC-X21AT
440MHz/1.2 GHz

IC-V21AT+
2M/220MHz

V & X-series not type-accepted at the time this catalog was printed.

AI Key — Day-to-day operation of a handheld often involves the repetitive use of one particular function or operation. Assign these most often used functions to the AI key for one-touch execution.

Set the AI key to 1 of 12 items depending on your preference.

146.01 440.00 SET	146.01 440.00 BATT	146.01 440.00 PR IO
SET Mode	Battery Condition	Priority Watch
146.01 440.00 PGR	146.01 440.00 CODE	146.01 440.00 DTMF
Pager/code sql operation	Pager code programming	DTMF memory operation
146.01 440.00 SCAN	146.01 440.00 15:00	146.01 440.00 DUP
Scan operation	Clock indication	Duplex setting
146.01 440.00 SKIP	146.01 440.00 MASK	146.01 440.00 TONE
Skip channel setting	Memory mask setting	Tone squelch

(Displays enhanced for publication)

Even More Features!

- Separate Speaker Control
- Built-in Pager, Code Squelch, Pocket Beep & Tone Squelch
- Power On/Off Timers & Auto Power-Off Function
- 70 Memory Channels
- Numerous Hi-Speed Scan Functions
- 4 Priority Watch Functions
- 4 DTMF memories
- Auto Low Output Power Selection
- 8 Tuning Steps
- And more . . .

*Not available on X21AT

ICOM America, Inc., 2380-116th Ave. N.E. Bellevue, WA 98004
 All stated specifications subject to change without notice or obligations. All ICOM radios significantly exceed FCC regulations limiting spurious emissions. *IC-V21AT only this device has not been approved by the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased until approval of the FCC has been obtained. The ICOM logo is a registered trademark of ICOM, Inc. 21ATF793Y

Need more information? Call our brochure hotline 1 (206) 450-6088

Experience the Quality

ICOM

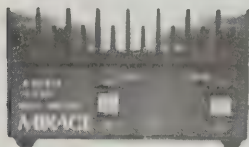
MIRAGE Amateur Band Amplifiers • VHF

ALL VHF MODELS FEATURE . . .

- GaAs-FET Receive Pre-Amp
- Noise Figure less than 0.6 dB
- Adjustable Pre-Amp Gain to Prevent Intermodulation
- Pre-Amp Gain Over 20dB on High Position
- Variable automatic Relay Switching with delay adjustment for SSB
- High VSWR Shutdown
- Intermittent Duty Cycle With Internal Over-Temperature Protection
- Complete Front Panel Switching
- All Mode Operation (SSB, CW or FM)
- Overcurrent Shutdown
- Remote Control Outlet

WARRANTY: Amplifiers are warranted for 5 years (parts & labor), except power transistors (1 year).

6 METER AMPLIFIERS — 50 - 54 MHz



A1015-G
10W In - 150W Out

A1035-G
10W In - 350W Out

SPECIFICATIONS:

RF POWER IN 1 to 15 Watts
RF POWER OUT 150 Watts
CURRENT/ VOLTAGE 18-22 Amps @ 13.8 Volts
SIZE 12" X 3" X 5.5"
WEIGHT 5 lbs.

2.0 to 15 Watts
350 Watts
18-22 Amps @ 27-30 Volts
12" X 3" X 5.5"
5 lbs.

2 METER AMPLIFIERS — 144 - 148 MHz



B-23 (without pre-amp)
2W In - 30W Out

FEATURES

Handie-Talkie Amp
Has No Power or VSWR Shutdown
No Remote Outlet

B-23-G
2W In - 30W Out

FEATURES

Compact Size
Complete Front Panel Switching
Has No VSWR Shutdown
No Remote Outlet

B-215-G
2W In - 150W Out

FEATURES

Designed for Handie-Talkies

SPECIFICATIONS:

RF POWER IN 100mW to 5 Watts
RF POWER OUT 30 Watts
CURRENT/ VOLTAGE 5 Amps @ 13.8 Volts
SIZE 4" X 2" X 4.5"
WEIGHT 1 lb.

100mW to 5 Watts
30 Watts
5 Amps @ 13.8 Volts
3.5" X 2" X 7"
1.25 lbs.

200mW to 5 Watts
150 Watts
20-25 Amps @ 13.8 Volts
12" X 3" X 5.5"
5 lbs.



B-108-G
10W In - 80W Out

FEATURES

Excellent for Handie-Talkies

B-1016-G
10W In - 160W Out

FEATURES

1 Watt in will give
60 Watts out

B-2516-G
30W In - 160W Out

200mW to 40 Watts
160 Watts
17-22 Amps @ 13.8 Volts
12" X 3" X 5.5"
5 lbs.

B-5016-G
50W In - 160W Out

35W to 55 Watts
160 Watts
17-22 Amps nom. @ 13.8 Volts
12" X 3" X 5.5"
5 lbs.

SPECIFICATIONS:

RF POWER IN 200mW to 15 Watts
RF POWER OUT 80 Watts
CURRENT/ VOLTAGE 10-12 Amps @ 13.8 Volts
SIZE 8" X 3" X 5.5"
WEIGHT 3 lbs.

100mW to 15 Watts
160 Watts
20-25 Amps @ 13.8 Volts
12" X 3" X 5.5"
5 lbs.



B-1030-G
10W In - 300W Out

FEATURES

Excellent for Handie-Talkies

B-2530-G
25W In - 300W Out

FEATURES

Linear Curve: 1W-30W, 45W max
High Speed RF Switching Relay

B-5030-G
50W In - 300W Out

FEATURES

High Speed RF Switching Relay

SPECIFICATIONS:

RF POWER IN 1W to 10 Watts
RF POWER OUT 300 Watts +
CURRENT/ VOLTAGE 48 Amps nom. @ 13.8 Volts
SIZE 10" X 12" X 5"
WEIGHT 15 lbs.

1W to 45 Watts
300 Watts +
48 Amps nom. @ 13.8 Volts
10" X 12" X 5"
15 lbs.

1W to 60 Watts
300 Watts +
48 Amps nom. @ 13.8 Volts
10" X 12" X 5"
15 lbs.

MIRAGE Amateur Band Amplifiers • VHF

2 METER AMPLIFIERS — 144 - 148 MHZ (CONTINUED)



B-1060-G

10W In - 600W Out

FEATURES

Excellent for Handie-Talkies

B-2560-G

25W In - 600W Out

B-5060-G

50W In - 600W Out

SPECIFICATIONS:

RF POWER IN 1 W to 10 Watts
 RF POWER OUT 600 Watts
 CURRENT/ VOLTAGE 42-52 Amps @ 28 Volts*
 SIZE 10" X 12" X 5"
 WEIGHT 15 lbs.

10 W to 30 Watts
 600 Watts
 42-52 Amps @ 28 Volts*
 10" X 12" X 5"
 15 lbs.

30 W to 60 Watts
 600 Watts
 35-45 Amps @ 28 Volts*
 10" X 12" X 5"
 15 lbs.

* Two 13.8 Volt power supplies can be combined in a series to provide 27.6 Volts for operating these new amplifiers. Application information is provided in the operations manual to safely combine power supplies.

1 1/4 METER AMPLIFIERS — 223 - 225 MHZ



C-22 (Without Pre-Amp)

2W In - 20W Out

FEATURES

Compact Size
 No Power or VSWR Shutdown
 No Remote Outlet
 Excellent for H/T's

C-22-G

2W In - 20W Out

FEATURES

Compact Size
 No VSWR Shutdown
 No Remote Outlet
 Excellent for H/T's

C-106-G

10W In - 60W Out

FEATURES

Excellent for H/T's

C-211-G

2W In - 110W Out

FEATURES

Excellent for H/T's

SPECIFICATIONS:

RF POWER IN 100mW to 5 Watts
 RF POWER OUT 20 Watts
 CURRENT/ VOLTAGE 5 Amps @ 13.8 Volts
 SIZE 4" X 2" X 4.5"
 WEIGHT 1 lb.

100mW to 5 Watts
 20 Watts
 5 Amps @ 13.8 Volts
 3.5" X 2" X 7"
 1.25 lbs.

300mW to 15 Watts
 60 Watts
 10-12 Amps @ 13.8 Volts
 8" X 3" X 5.5"
 3 lbs.

300mW to 4 Watts
 110 Watts
 18-20 Amps @ 13.8 Volts
 12" X 3" X 5"
 5 lbs.



C-1012-G

10W In - 120W Out

FEATURES

1 Watt in will give 15 Watts out

C-2512-G

25W In - 120W Out

C-5012-G

50W In - 120W Out

SPECIFICATIONS:

RF POWER IN 300mW to 15 Watts
 RF POWER OUT 120 Watts
 CURRENT/ VOLTAGE 18-20 Amps @ 13.8 Volts
 SIZE 12" X 3" X 5.5"
 WEIGHT 5 lbs.

300mW to 40 Watts
 120 Watts
 16-18 Amps nom. @ 13.8 Volts
 12" X 3" X 5.5"
 5 lbs.

35W to 55 Watts
 120 Watts
 16-18 Amps nom. @ 13.8 Volts
 12" X 3" X 5.5"
 5 lbs.



C-1022-G

10W In - 220W Out

C-2522-G

25W In - 220W Out

C-5022-G

50W In - 220W Out

SPECIFICATIONS:

RF POWER IN 1W to 10 Watts
 RF POWER OUT 220 Watts
 CURRENT/ VOLTAGE 48 Amps @ 13.8 Volts
 SIZE 13" X 10" X 5"
 WEIGHT 13 lbs.

1W to 30 Watts
 220 Watts with 30 Watt Drive
 48 Amps nom. @ 13.8 Volts
 13" X 10" X 5"
 13 lbs.

35W to 55 Watts
 220 Watts
 48 Amps @ 13.8 Volts
 12" X 3" X 5.5"
 5 lbs.

MIRAGE 70cm Amplifiers • 420-450MHz - UHF

ALL UHF MODELS FEATURE...

- All-Mode FM, SSB, CW, ATV
- Voltage 13.8 vDC
- Adjustable Delay for SSB
- Remote Control Outlet
- 50 Ω Impedance (input & output)
- Use with **MIRAGE/klm's** 440 Antennas...
Model numbers 440-6X, 440-10X and 440-16X



D-15-N

1W In - 15W Out

FEATURES

Special for ATV Service as well as SSB and FM
All Solid State - No Relays
No Remote Outlet
Excellent for H/T's

D-26-N

2W In - 60W Out

FEATURES

Special for ATV Service as well as SSB and FM
1 Watt in will Give 51W out
Excellent for H/T's

D-1010N

10W In-100W Out

FEATURES

430 - 450 MHz
SSB/FM
Can be modified for ATV Service

D-3010-N

30W In-100W Out

FEATURES

430 - 450 MHz
SSB/FM

SPECIFICATIONS:

RF POWER IN 250mW to 2 Watts
RF POWER OUT 2W In 20W Out
CURRENT 3 Amps nominal
SIZE 7.25" X 3.5" X 2"
WEIGHT 1.5 lbs

400mW to 5 Watts
2W In 60W Out
12 Amps nominal
8.25" X 2.5" X 7"
4 lbs.

300mW to 15 Watts
100W
20 Amps
12" x 3" x 5.5"
6 lbs.

5W-45 Watts
100W
20 Amps
12" x 3" x 5.5"
6 lbs.



D-1010-ATVN

10W In-100W Out

FEATURES

Specially designed for amateur television
Can also be used for SSB and FM
2W in will give you 52W output
420 - 450 MHz

D-100-ATVN

2W In-52W Out

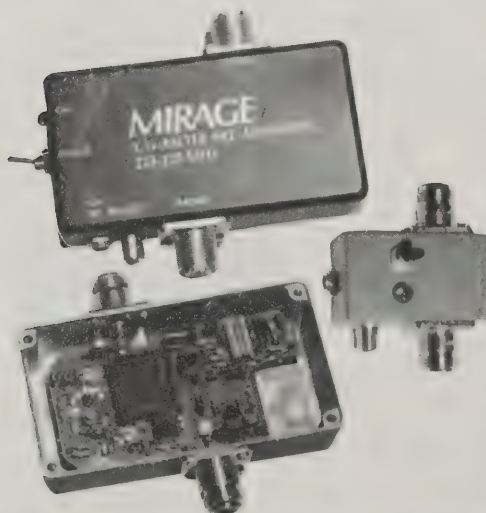
FEATURES

Specially designed for amateur television
Can also be used for SSB and FM
420 - 450 MHz

SPECIFICATIONS:

RF POWER IN 1W to 15 Watts
RF POWER OUT 100W
CURRENT 20 Amps
SIZE 12" x 2" x 5.5"
WEIGHT 6 lbs.

500mW to 5 Watts
52W
20 Amps
12" x 3" x 5.5"
6 lbs.



MIRAGE HF/VHF/UHF Preamplifiers

Model KP-1 In-Shack Model • Available for 10M 6M, 2M, 1 $\frac{1}{2}$ M and 70cm bands. Features an in-line design with automatic RF sensed Transmit/Receive switching. The Low noise (<0.6dB) GaAs-FET circuit boosts weak receive signals up to 20-25dB or 10-15dB with internal attenuator switched in. Maximum thru transmit power is 165W RF. Requires 12-15VDC. 4 $\frac{1}{4}$ " x 2 $\frac{5}{16}$ " x 1 $\frac{1}{16}$ ".

Model KP-2 Mast-Mount Model • Similar to KP-1 except installed on a 4 $\frac{1}{2}$ " x 5" mounting plate and supplied with a 2 $\frac{1}{16}$ " mast clamp - also has weatherproof type-N connectors. Mounts outside near antenna for maximum signal input and lowest transmission line loss. DC insertion module provides power/remote control thru the transmission line. Requires 12-15V DC. Preamp: 4 $\frac{1}{4}$ " x 2 $\frac{15}{16}$ " x 1 $\frac{1}{16}$ ", Module: 2 $\frac{1}{8}$ " x 1 $\frac{1}{4}$ " x 1 $\frac{1}{16}$ ".

MIRAGE Remote Control Head



Model RC-1 • Usable with most MIRAGE RF Power Amplifiers. Provides convenient Remote Control operation of On/Off, Preamp On/Off and SSB/FM mode functions. 18 foot cabling included - available in longer lengths with special order. 1 $\frac{1}{4}$ " x 3 $\frac{3}{4}$ " x 2 $\frac{1}{2}$ ".

Order Toll Free: 1-800-558-0411

FAX: (414) 358-3337

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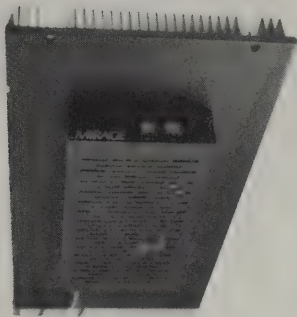
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Phone (702) 647-3114
1-800-634-6227



Since 1957

MIRAGE Repeater Amplifiers • VHF/UHF

ALL TRANSISTORS ARE MOUNTED ON A COPPER BASE IMBEDDED INTO THE HEATSINK. THIS UNIT IS DESIGNED FOR CONTINUOUS DUTY.



FEATURES

50, 144 AND 220 MHz Models

Cool Running — A 10" high by 19" wide full finned rack-mounted heatsink keeps the transistor temperatures low for long life. The chassis cover is perforated so air convection will keep the circuit board area cool.

Dual Protection — The amplifiers have two temperature sensors; one on the heatsink and one on the circuit board. If conditions cause either area to overheat, the amplifier will shut off until it cools down to a safe temperature.

Bypass Mode — These models will feed the exciter output straight through to the antenna in an over-temperature condition. The bypass mode can also be remotely selected by proper interfacing to the repeater controller. Either a relay contact or a TTL logic can be used to select the bypass mode or amplified mode of operation.

Reduced Relay Wear — The amps have a selectable long release time (adjustable up to 5 secs.) for the RF change-over relay. This prevents unnecessary relay action during repeater operation.

On-Site Control — The bypass mode and relay release time can be selected with built-in switches. The optional MIRAGE RC-1 remote control box can be used to switch these functions up to 18 feet away from the amplifier.

MHz Freq. Range	Model Number	Watts Power Input	SPECIFICATIONS		Amps Nominal Current	Power Supply (vDC)	RF Connector
			for	Watts Max. Cont Output			
50-54	A1015R	3-4		110	16-18	13.8	Teflon SO-239
144-148	B215R	1		110	16-18	13.8	Teflon SO-239
145-148	B1016R	3-4		120	16-18	13.8	Teflon SO-239
145-148	B2516R	10-12		120	14-15	13.8	Teflon SO-239
223-225	C211R	.3 - .6		80	15-16	13.8	Teflon SO-239
223-225	C1012R	5		90	16-18	13.8	Teflon SO-239
223-225	C2512R	13-15		90	13-14	13.8	Teflon SO-239
440-450	D1010RN	2-4		80	14-15	13.8	Teflon "N" UG58AU
440-450	D3010RN	10-12		80	11-13	13.8	Teflon "N" UG58AU
420-450 ATV	D100-ATVRN	.5-1		40	12-14	13.8	Teflon "N" UG58AU
420-450 ATV	D1010-ATVRN	2-4		80	15-16	13.8	Teflon "N" UG58AU

FEATURES

440 MHz and ATV Models

Cool Running — A 10" high by 19" wide full finned rack-mounted heatsink keeps the transistor temperatures low for long life. The chassis cover is perforated so air convection will keep the circuit board area cool. The RF board is low-loss Teflon for minimum dielectric heating.

Reliable — The RF change-over relay has been eliminated on this model to provide the highest order of reliability. Teflon connectors are standard on this well-designed unit.

Protection — The amplifier will shut off if conditions cause the heatsink temperature to raise to an unsafe level.

All-Mode Operation — Class AB linear operation is rated for FM, SSB, CW and ATV operation.

WARRANTY ON ALL REPEATER AMPLIFIERS

Warranty — RF power devices are guaranteed for one year against failure due to defective workmanship or materials. All other components are guaranteed for two years.

MIRAGE Watt/SWR Meters • HF/VHF/UHF



FEATURES:

- Peak or Average Reading
- Reads SWR Directly-Without Extra Charts or Graphs
- Functions: Power Forward/Reverse, Peak/Average and SWR

WARRANTY:

5 Years Parts & Labor

SPECIFICATIONS:

MODEL	MHz FREQ.	SWR SENS.	POWER RANGE
MP-1	1.8 to 30	1-2 Watts	25,200 & 2000 Watts
MP-2	50 to 200	1-2 Watts	50,500 & 1500 Watts
MP-3	420 to 450	5 Watts	5.50 & 150 Watts
MP-4	1260 to 1300	1 Watt	1.10 & 100 Watts

- Remote Coupler Mounting
- Line impedance - 50 Ω
- Insertion Loss-negligible
- Power requirements 9-13.6 vDC internal battery or AC adaptor jack
- Low Battery Indicator
- Triplett Meter Movement
- Weight - 3.5 lbs.

practical Sideband

Mobile Special

SG-2000 HF Radio
SG-230 Antenna Coupler
Quick Mount System

QMS™

Get a GREAT MOBILE SIGNAL

- Full Ham Band coverage
- Type approved for Marine use
- Data modes supported
- 644 preprogrammed channels
- Full 150 watts output
- Extremely rugged system



The SG-2000 Remote Control Head provides the largest LCD display available - Easy to read on land or at sea.



Single Sideband Communications and Systems Engineering

Highest Value - The SG-2000 is under \$2000
Up to 8 Control Heads - Intercom between heads
Remote Control Options - by telephone & computer
Instant tuning - SG-230 computer control coupler
SG-303 Mobile whip - Covers 1.8 to 30 MHz
QMS - Allows "No Holes" HF mobile installations
Call SGC (206) 746-6310. Free information package

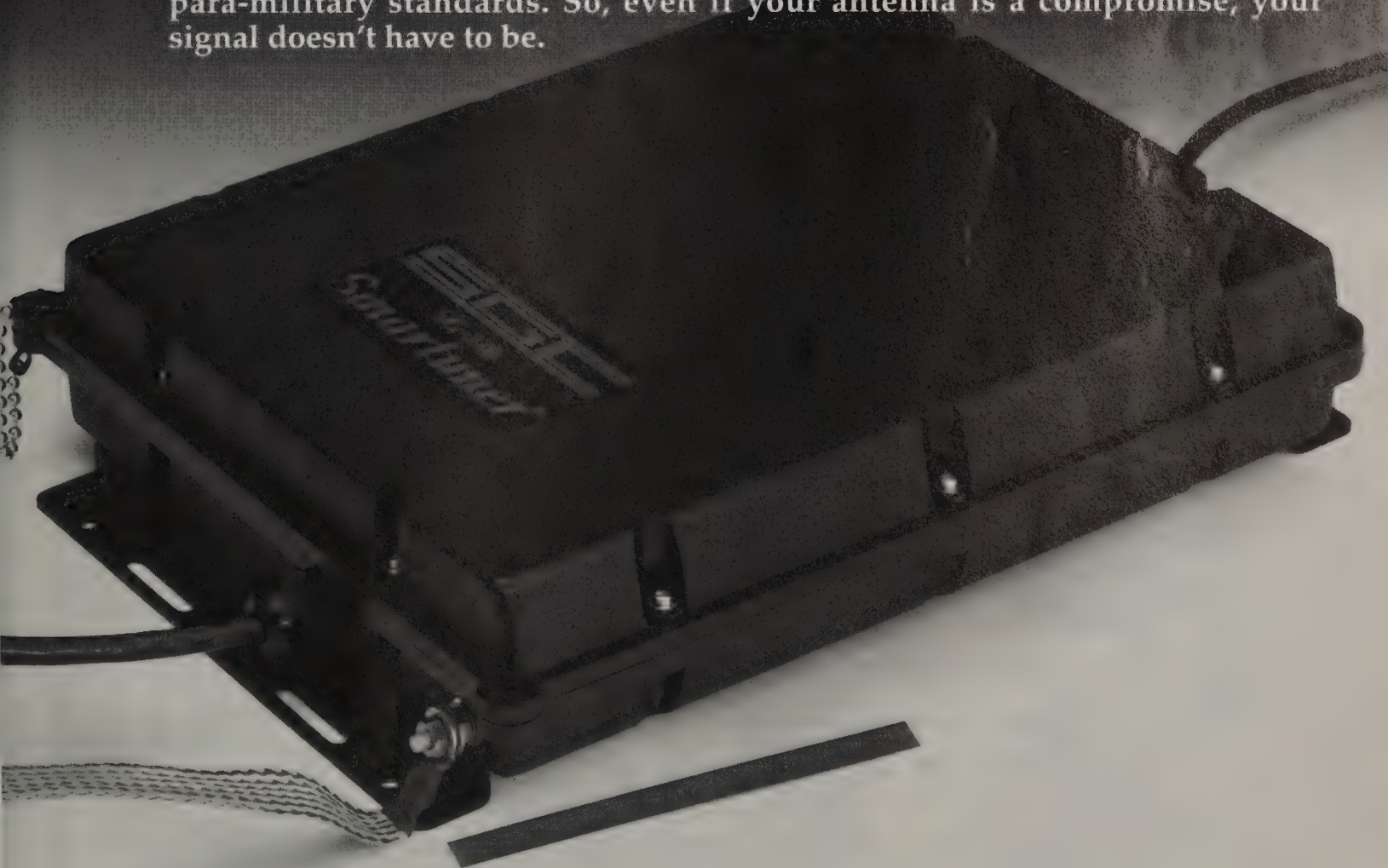
THE MOST RUGGED COMMERCIAL GRADE HF SYSTEM IS NOW AVAILABLE TO YOU!

SGC

MODEL SG-230

ANY RIG — ANY ANTENNA
AUTOMATICALLY
SMARTUNER™

Let's get frank about HF antennas. Most hams try to put resonant antennas up for every band. For those with the room, great! But for the rest of us, limited to perhaps a single long wire or some other compromise antenna, the SGC SMARTUNER is the ideal solution. It's onboard computer selects exactly the right inductance and capacitance from more than one half million possible combinations. Then it remembers the setting so your rig will retune in 10 milliseconds. It's waterproof, too, built to exacting commercial and para-military standards. So, even if your antenna is a compromise, your signal doesn't have to be.

**SGC**

SGC Inc. SGC Building, 13737 S.E. 26th St. Bellevue, WA. 98005-USA
P.O. Box 3526, 98009. Telex: 328834. Fax: 206-746-6384. Tel: 206-746-6310 89

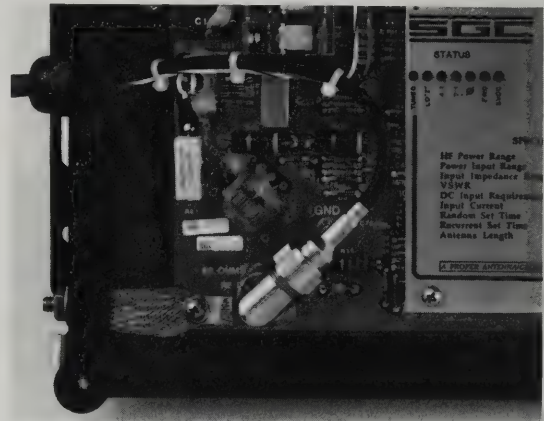


MODEL SG-230

SPECIFICATIONS - SG-230

HF Frequency Range:	1.8 to 30.0 MHz
Power Input Range:	10 to 150 watts (PEP)
Input Impedance Range:	45 to 55 ohms
VSWR:	Typical: less than 2:1
DC Input Requirement:	13.8 VDC typical (optional 24 VDC)
DC Operating Range:	10 to 15 VDC (optional: 24VDC)
Input Current:	Average: .9 amps
Random set time:	Typical: less than 2 seconds
Recurrent set time:	Typical: less than 10 milliseconds
Non volatile memory addresses	500
Antenna Length:	8 to 80 ft. 3.3-30 MHz 23 to 80 ft. 1.8-30 MHz
Installation:	Any position
Operating Temperature:	-35° to +70°C
Environmental:	Waterproof at immersion half meter, half hour
Size overall:	16x 12 x 3 inches
Weight:	8 pounds (3.5 kilos)
Case Construction:	Plastic ABS (optional: shockmount tray)
Control Cable:	SGC special cable, 9 ft. coaxial and two power wire input (replaceable by any standard cable)

A seven "LED" status "B.I.T.E*" indicator, displays input power, forward power, phase, two VSWR levels, low impedance and tuned conditions.* (B.I.T.E Built In Test Equipment)

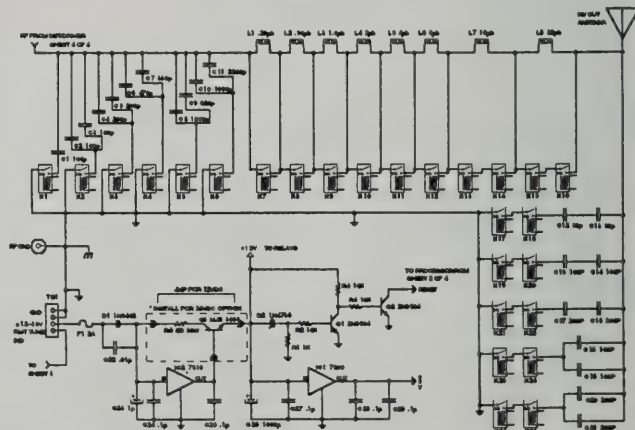
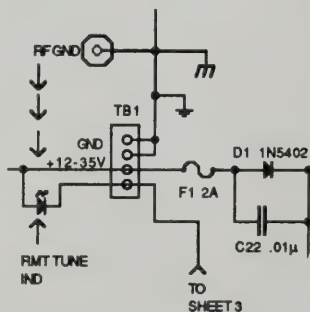


The *Smartuner* high technology coupler will "intelligently" tune any length antenna from 8 to 80 feet in the HF band, from 1.8 to 30 MHz from 10 watts up to 150 watts PEP input power. The SG-230 antenna coupler is available with several options, such as shock mount for military applications and 24 VDC operation. No preliminary tuning or adjustment is required and the unit will operate with any HF transceiver within its specifications. The SG-230 coupler switches 64 input and 32 output capacitance combinations plus 256 inductance combinations in a π "pi" network resulting in over a half-million different ways to ensure a perfect match for the transceiver. Even more important, it *remembers the frequency and the tuning values*. On future transmissions of the same frequency, the *Smartuner* re-selects these values in less than 10 ms.

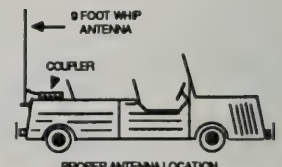
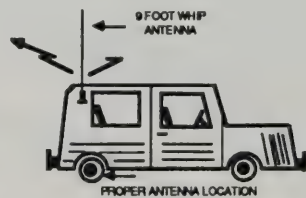
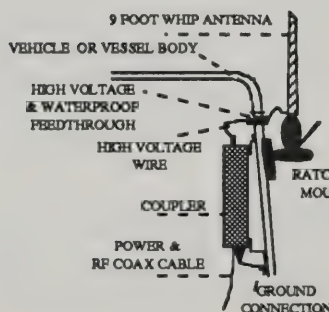
The only necessary connections to the SG-230 Antenna Coupler are 12VDC power supply (24VDC optional) and RF coaxial cables. In addition, a tuned LED indicator may be connected externally to the "RMT TNE" line for visual "Coupler Tuned" recognition. LED must be connected in series with 4.7K Ω 1 Watt resistor if the input power source is 24VDC.



RF π "pi"network with over half million microprocessor selected combinations.
(Not shown are the CPU, Memory, Drivers and Sensing circuits)



Vehicular installation with the high performance SG-303 8 foot whip antenna.



ANLI

Antenna

HAM RADIO Antenna

For Hams Who Demand High Quality ...

ANLI Gives You The Best of
Both 144 MHz & 440 MHz

**S-1 (ANTENNA)****WA-1 (MOUNT)**

WITH THE WA-1 WINDOWS CLIP
MOUNT, YOU CAN MOUNT YOUR H.T. (OR ANLI S-1) ANTENNA TO YOUR CAR WINDOW OR SUNROOF.

SB-152**SB-791**

PORTABLE POWER PACK
Output : 12V 6.5 AMP & 3,6,9V
Built in Voltage Meter & AC Adapter



Hi-Quality Power Supply
Output : 13.8V. DC 5A
UL Approved

MOUNTS

**CM-1 BNC CLIP**

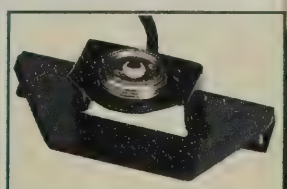
ANGLE ADJUSTABLE

**CM-2 BNC CLIP****WA-1 BNC**

WINDOW MOUNT

**MC-1 HI-FLUX Magnet Mount**

NMO/UHF

**TA-1 Angle Adjustable Trunk Mount**

NMO/UHF

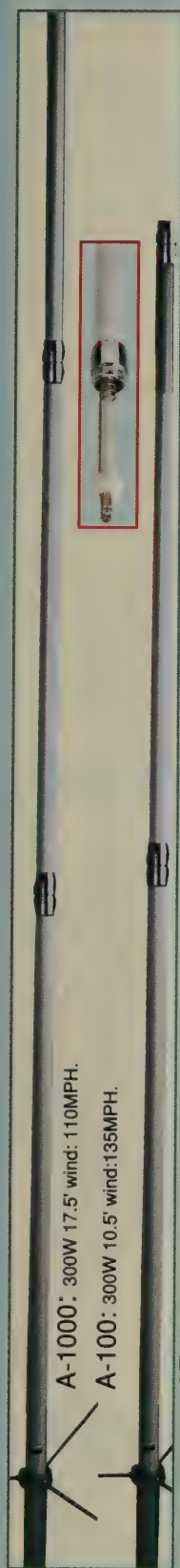


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SUPPLY®**

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For more product or technical information you can call ANLI at 1-818-369-2654.

**A-1000:** 300W 17.5' wind: 110MPH.**A-100:** 300W 10.5' wind: 135MPH.**AT-4:** 200W 32" Fold Oved.**AT-2(B):** 200W 1'10" Spring Loaded**AT-3:** 100W 1'5" Spring Loaded**S-1:** 50W 14"**RD-78:** 144/440/900MHz 50W 15"**AL-800:** 144/440MHz 50W

Telescoping (31") w/switchable Rubble Whip(6")

RD-8: 144/440/900MHz 10W 7" Wide-Band, Good for Scanning Also.

Very Light Weight
2 in 1 Model

NMO/UHF

NMO (140-155/390-490MHz-B Model)

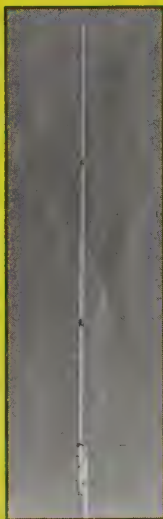
UHF

Flexible Whip w/Life Time Warranty

Wide-Band, Good for Scanning Also

Featuring the **COMET** exclusive SLC System. The SLC actually increases the gain of the Dual/TriBand Antennas. A completely pre-formed phasing coil and phosphorous copper element produces a low-loss, highly effective, high gain antenna. All **COMET** antennas are pre-tuned and come complete with all mounting hardware. Simply mount to your mast and experience incredible **COMET** performance!

COMET DUAL-BAND



CA-2x4MAX

Dual-Band 146/446 MHz
SLC System

Gain & Wave:

146MHz 6.5dB 5/8 wave x 3
446MHz 11.9dB 5/8 wave x 8

VSWR: 1.5:1 or less

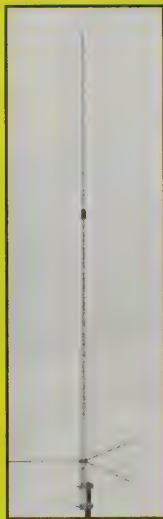
Max Power: 200 watts

Length: 17' 8" Weight: 5 lbs. 11 ozs.

Mounts to Mast Size: 1 1/4" - 2 1/2"

Connector: SO-239

Construction: Heavy duty fiberglass,
3 sections



CA-2x4WX

Dual-Band 146/446 MHz
SLC System

Gain & Wave:

146MHz 6.5dB 5/8 wave x 2
446MHz 9.0dB 5/8 wave x 5

VSWR: Less than 1.5:1, 144-148MHz

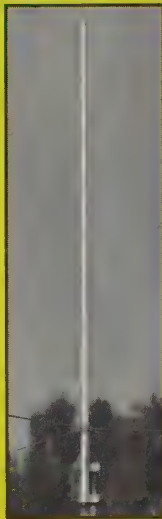
440-450MHz

Max Power: 200 watts

Length: 10' 2"

Connector: SO-239

Construction: Heavy duty fiberglass,
2 sections



CA-2x4FX

Dual-Band 146/446 MHz
Base-Repeater Antenna

Gain: 146MHz 4.5dB 446 7.2dB

Impedance: 50 ohms

VSWR: Less than 1.5:1, 144-148MHz

440-450MHz

Max Power: 200 watts

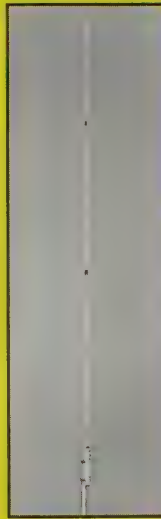
Length: 5' 11" Weight: 2 lbs. 12 ozs.

Mounting Mast Dia: 1 1/2" - 2 1/4"

Connector: SO-239

Construction: Heavy duty fiberglass

COMET MONO-BAND



CA-ABC 23

Mono Band 146 MHz
Base-Repeater Antenna

Gain & Wave:

146MHz 7.8dB 5/8 wave x 3

VSWR: 1.5:1 or less

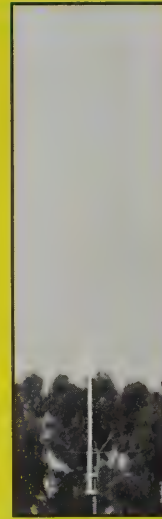
Max Power: 200 watts

Length: 13' 4" Weight: 3 lbs. 8 ozs.

Mounting Mast Dia: 1 - 2 1/2"

Connector: SO-239

Construction: All Aluminum



CA-712EF

Mono Band 440-450MHz
Repeater Antenna

Gain & Wave:

446MHz 9dB 1/2 wave x 12

VSWR: 1.5:1 or less

Max Power: 200 watts

Length: 10' 5" Weight: 3 lbs.

Mounting Mast Dia: 1 1/2" - 2 1/2"

Connector: N-Type

Construction: Heavy Duty Fiberglass



CA-62DB

6 Meter Vertical
Gain & Wave:

52 MHz 6.5dB 5/8 wave x 2

VSWR: 1.5:1 or less

Max Power: 500 watts SSB

Length: 21' Weight: 5 lbs. 11 ozs.

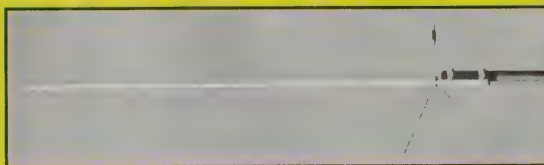
Mounting Mast Dia: 1 1/4" - 2"

Max Wind Speed: 100MPH

Connector: SO-239

Construction: Heavy Duty
Aluminum

COMET TRI-BAND



CX-725

Tri-Band 50/146/446MHz

Gain & Wave:

50MHz 2.15dB 1/2 wave

146MHz 6.2dB 5/8 wave x 2

446MHz 8.4dB 5/8 wave x 4

VSWR: 1.2:1 or less

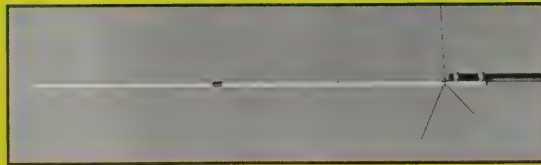
Max Power: 200 watts

Length: 7' 6"

Weight: 3 lbs.

Connector: SO-239

Construction: Fiberglass



CX-902

Tri-Band 146/446/1200 MHz

Gain & Wave:

146MHz 6.5dB 5/8 wave x 2

446MHz 9.0dB 5/8 wave x 3

1200MHz 9.0dB 5/8 wave x 5

VSWR: 1.5:1 or less

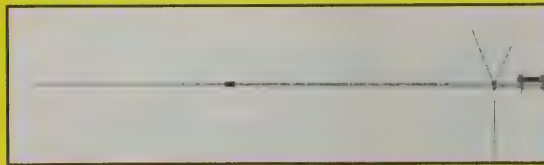
Max Power: 200 watts

Length: 10'

Weight: 3 lbs. 3 ozs.

Connector: N-Type

Construction: Fiberglass,
2 sections



CX-333

Tri-Band 2M/220/440MHz

Gain & Wave:

146MHz 6.5dB 5/8 wave x 2

220MHz 7.8dB 5/8 wave x 3

446MHz 9.0dB 5/8 wave x 5

VSWR: Less than 1.5:1

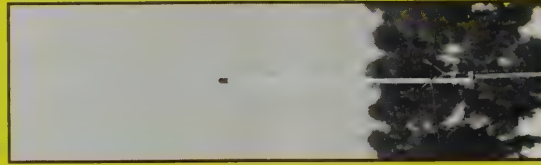
145-147.5MHz, 220-225MHz,
440-450MHz

Max Power: 120 watts

Length: 10' 2"

Connector: SO-239

Construction: Heavy-Duty
Fiberglass, 2 Sections



CX-903

Tri-Band 146/446/1200 MHz

Gain & Wave:

146MHz 6.5dB 5/8 wave x 2

446MHz 9.0dB 5/8 wave x 5

1200MHz 13.5dB 5/8 wave x 12

VSWR: 1.5:1 or less

144.5-147MHz, 440-450MHz,
1260-1300MHz

Max Power: 100 watts

Length: 9' 4"

Weight: 3 lbs. 8 ozs.

Connector: N-Type

Construction: Heavy-Duty
Fiberglass, 2 sections

NEW

CROSS NEEDLE METERS

- Separate Meter and RF Sensor allows for convenient placement of the meter.
- Cross Needle Meter provides FWD, REF, and VSWR simultaneously.
- The RF-Sensor is a compact design, and has an extremely low-loss circuit.
- Beautifully illuminated when connected to power supply.
- 6 foot cable standard.
- Optional EKS-3 10 foot extension cable for a total of 16 feet between the sensor and meter.

CMX-1	CMX-2	CMX-3
1.8-60MHz	1.8-200MHz	140-525MHz
0-2KW	0-200W	0-200W
30/300/2KW	20/50/200W	20/50/200W



Check the front of the book under **COMET** for a complete line listing and prices. For more product or technical information you can call the **COMET** Customer Service Line Toll Free at -
1-800-962-2611



NCG Companies

1275 North Grove Street

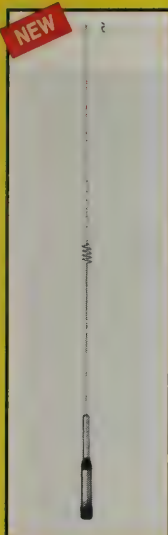
Anaheim, CA 92806

(714) 630-4541 FAX (714) 630-7024

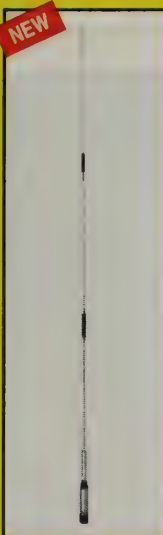
COMET

MODERN, MULTI-BAND ANTENNA SYSTEMS

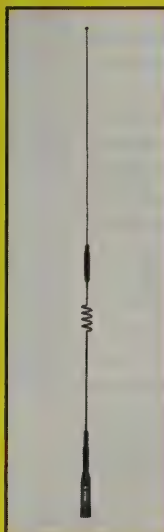
Modern, high-performance stations use **COMET** Antennas, Duplexers, Triplexers and Accessories! **COMET** products are designed to provide an exceptional level of signal quality and coverage area. Whether operating mobile or from your base station, **COMET** products make you sound good. No other product line has the selection, convenience, quality and performance!



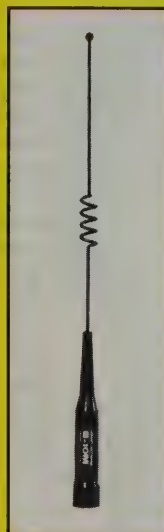
SB-5/SB-5NMO
Dual-Band 146/446MHz
Gain & Wave:
146MHz 3.0dBi 1/2 wave
446MHz 5.5dBi 5/8 wave x 2
VSWR: 1.5:1 or less
Max Power: 120W FM
Length: 36"
Connector: PL-259 or NMO style



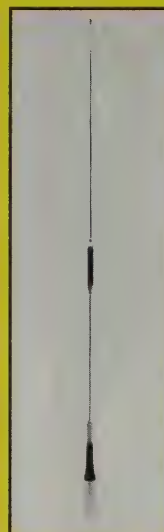
SB-7/SB-7NMO
Dual-Band 146/446MHz
Gain & Wave:
146MHz 4.5dBi 6/8 wave center load
446MHz 7.2dBi 5/8 wave x 3
VSWR: 1.5:1 or less
Max Power: 70W FM
Length: 4' 7"
Connector: PL-259 or NMO style



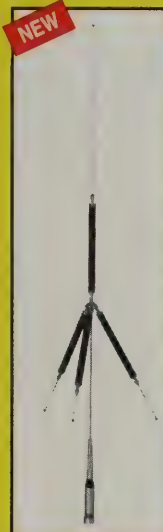
B-20/B-20NMO
Dual-Band 146/446 MHz
Gain & Wave:
146MHz 2.15dB 1/2 wave
446MHz 5.0dB 5/8 wave x 2
VSWR: Less than 1.5:1
144-148MHz, 440-460MHz
Max Power: 50 watts
Length: 30"
Connector: PL-259 or NMO style
Construction: Black, w/fold-over



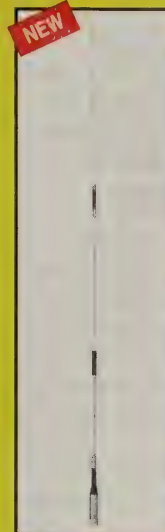
B-10/B-10NMO
Dual-Band 146/446 MHz
Gain & Wave:
146MHz -0dB 1/4 wave
446MHz 2.15dB 1/2 wave
VSWR: Less than 1.5:1
144-148MHz, 440-450MHz
Max Power: 50 watts
Length: 12"
Connector: PL-259 or NMO style
Construction: Black, cellular look-a-like



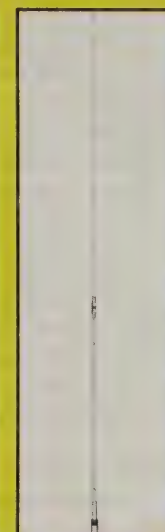
CX-224/CX224NMO
Tri-Band 146/220/446MHz
Gain & Wave:
146MHz 2.15dB 1/2 wave
220MHz 3.6dB 5/8 wave
446MHz 6.0dB 5/8 wave x 2
VSWR: 1.5:1 or less
Max Power: 100 watts
Length: 3'
Connector: CX-224 PL-259
CX-224NMO NMO Style



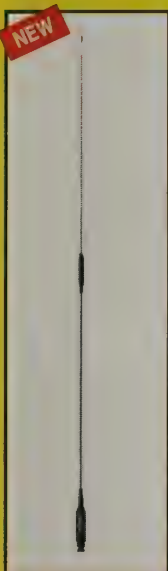
HA4S
Quad-Band HF Mobile
7, *14, 21, 24, 28MHz
Wave: 1/4 wave
VSWR: Less than 2:1
Weight: 1 lb. 14 ozs.
Length: 4' 4"
Connector: PL-259
Construction: Heavy Duty, w/Fold-Over
*L-14HS: Optional 14MHz Coil



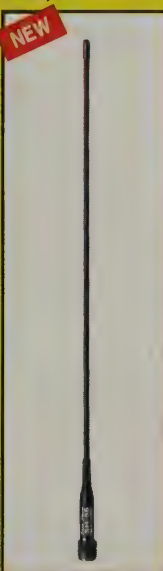
FJ-15S
Tri-Band Mobile
50/146/446MHz
Gain & Wave:
50MHz 2.15dB 1/4 wave
146MHz 4.5dBi 5/8 wave center-loaded
446MHz 7.2dBi 5/8 wave x 3
VSWR: 1.5:1 or less
Max Power: 120 watts FM
Length: 4' 10"
Connector: PL-259



CHL-185
148MHz
Gain & Wave:
4.1dB 5/8 wave
VSWR: 1.5:1 or less
Max Power: 200 watts
Length: 4' 8"
Connector: PL-259



CH-722SA
146/446MHz HT Antenna
Gain & Wave:
146MHz 3.0dBi 1/2 wave
446MHz 5.5dBi 5/8 wave x 2
Max Power: 50 watts
Length: 36"
Weight: 3.9 ozs.
Connector: BNC



SH-55
146/446MHz HT Antenna
Gain & Wave:
146MHz 1.5dBi 1/4 wave
446MHz 3.2dBi 5/8 wave
Max Power: 10 watts
Length: 15.5"
Connector: BNC



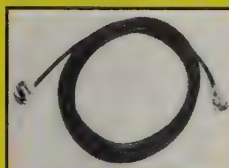
CH-32
Miracle Baby 146/446MHz HT Antenna. Compact design, the smallest HT antenna available!
Gain & Wave: 0dB 1/4 wave
VSWR: 1.5:1 or less
Max Power: 10 watts
Length: 1.75"
Connector: BNC



RS-21
Trunk, hatchback, rear door (van, blazer, etc.) mount. Adjustable to virtually ANY angle. Rubber-coated base protects vehicle paint.



RS-820
Heavy-duty low profile trunk lip or hatch back mount. Rubber coated base protects vehicle paint.

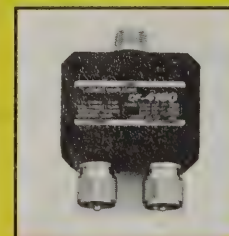


3D4M Standard Cable Assembly
13.5 feet of low loss coax. Gold plated UHF (PL-259/SO-239) connectors.



CK-5M Deluxe Cable Assembly
13 feet double shielded very low loss coax. + 12" RG-188 teflon coax. Gold-plated UHF (PL-259/SO-239) connectors. Allows easy entry from a lip-mount w/o causing coax or weather strip damage.

CK-5M5 Deluxe Cable Assembly
Same as CK-5M, but 17 feet of coax.



CF-4160K, CF-4160I, CF-4160J
146/446 MHz
Band Pass, Ins. Loss, Max Power:
1.3-150MHz, 0.1dB, 800w PEP
400-540MHz, 0.2dB, 500w PEP
Isolation: 60dB
CONNECTORS:
CF-4160K CF-4160I CF-4160J
Output: SO-239 SO-239 SO-239
Low In: PL-259 PL-259 SO-239
High In: PL-259 N-Male SO-239

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5710 W. Good Hope Road; Milwaukee, WI 53223 • Phone (414) 358-0333

R5 / R7 Halfwave HF Verticals

The right antennas for every ham.

The "R" series antennas have revolutionized the way hams look at verticals. Dedicated hams all over the world have tried the R5 and R7 and have been amazed that these compact, rugged verticals can perform the way they do. The outdated idea that a vertical antenna is a serious compromise has been put to rest. Not only are these antennas compact and able to fit just about anywhere, but they're built strong and built to last.

The R5 and R7 are the result of decades of experience in antenna design. They have proven themselves on Arctic DX-peditions, tropical island contest stations, ocean vessels and even on a hot air balloon trip. Their greatest success, though, has been in amateur home stations throughout the world where they provide exceptional performance.

Whether you understand the technology involved or not, know that these compact antennas perform like no others. Tune in on 10 to 40 meters and talk to many enthusiastic R5 and R7 owners.

- No Ground Radials
- Compact Size
- Low Angle Radiation
- Automatic Band Switching
- Broadband Matching
- Mount Anywhere
- No Moving Parts

MODEL	R5	R7
Frequency, MHz	28, 24, 21, 18, 14	28, 24, 21, 18, 14, 10, 7
Gain, dBi	3	3
Electrical Wavelength	Halfwave	Halfwave
SWR 2:1 Bandwidth	10 m-2 MHz	10 m-2 MHz
	12 m-100 KHz	12 m-100 KHz
	15 m-450 KHz	15 m-450 KHz
	17 m-100 KHz	17 m-100 KHz
	20 m-350 KHz	20 m-150 KHz
		30 m-50 KHz
		40 m-75 KHz
Power Rating, Watts PEP	1800	1800
Radiation Angle, Degrees	16	16
Frequency Selection	Automatic	Automatic
Horizontal Rad. Pattern Deg.	360	360
Height, ft (m)	17 (5.2)	22.5 (6.9)
Mast Size Range, in (cm)	1.5-1.75 (3.8-4.4)	1.5-1.75 (3.8-4.4)
Wind Load, ft ² (m ²)	1.4 (.13)	2.25 (.21)
Weight, lb (kg)	8.7 (4)	12.3 (5.6)
49" Counterpoise Radials Supplied	4	7

10, 12, 15, 17, 20 METERS



Thousands of R5's are currently in use by satisfied hams worldwide. This compact, 17 foot high halfwave has

gained popularity because of its reputation for uncanny performance level's and the fit-anywhere convenience of a vertical without ground radials. Put the world in your log book on 10 through 20 meters with the Cushcraft R5 halfwave vertical.

"It did everything I hoped and more... In 27-1/2 hours of operating over 5-1/2 days, we made 2788 CW QSO's with 87 countries..."

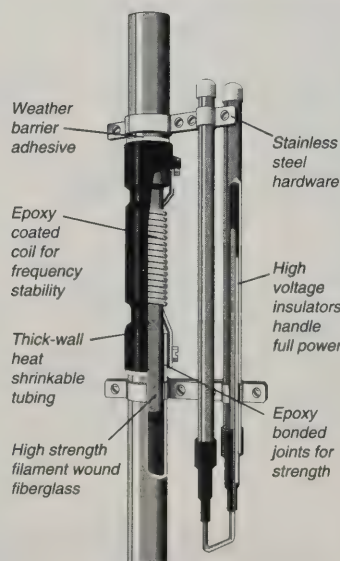
QST, Oct. 1990

"I had used the antenna with my RV in Mexico and worked over 80 countries..."

CQ, Nov. 1989

"I must congratulate Cushcraft for a well-made, easy-to-use antenna..."

Practical Wireless, Sept. 1992



NO GROUND RADIALS

"The antenna was of vital importance to me as I used it twice a week to speak to my wife and children back in New York." (WA2RUD / 5H3WL / 5Z4PI)

"The R5 works superb. Best DX vertical I ever had during 30 years of ham practice." (DJ8WI)

"Everything assembled beautifully and how nice not having to have an antenna tuning unit when band changing." (G4JZK)

"Thanks for designing such an excellent antenna that provides so much fun for us apartment dwellers." (N1LKH)

10, 12, 15, 17, 20, 30, 40 METERS



This 22 foot marvel packs a punch on 10 to 40 meters that has to be experienced to be believed. With only 7 short counterpoise rods, the R7 will fit just about anywhere. If you're looking for the most performance in the smallest package then the R7 is for you. Precisely tuned radio frequency traps optimized for each band and strategically placed X-hats enable the R7 to radiate a low angle signal that makes working DX a snap. Experience 7 band performance anywhere with the incredible R7.

optimized for each band and strategically placed X-hats enable the R7 to radiate a low angle signal that makes working DX a snap. Experience 7 band performance anywhere with the incredible R7.

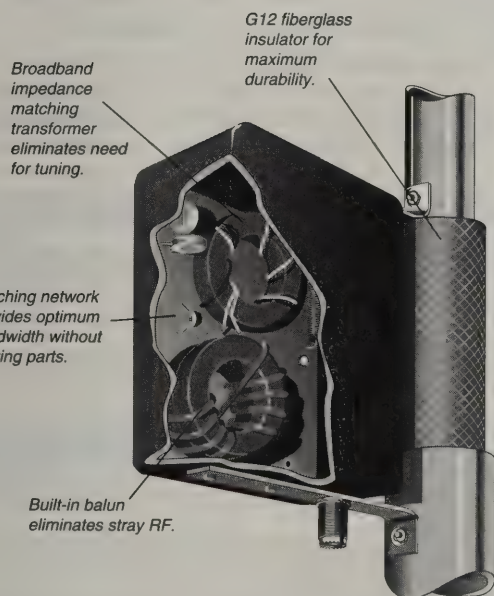
**NOW
30 & 40
METERS**

*"It's an excellent solution for somebody who's looking for a low-profile homestation antenna that works well on 40 through 10 meters. . . ideal for portable operation because it easily breaks down into a small package, and you don't have to worry about a radial system or finding trees for supports." **

QST, August 1992

*"The instructions are very detailed and clear. . . the antenna goes together in about 30 minutes. . . running 100 Watts and using the R7 I managed to work DXCC (actually 117 countries). . . hardware is of very outstanding material, and the antenna is best described as rugged." **

CQ, August 1992



"Excelentes resultados con la R7" (XE1USN)

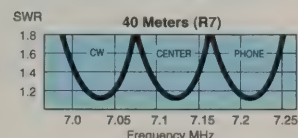
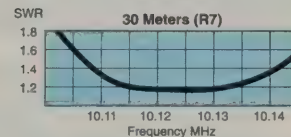
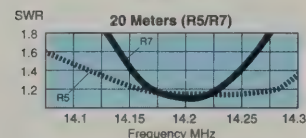
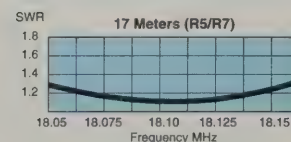
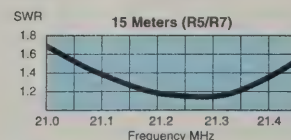
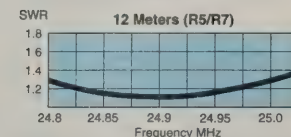
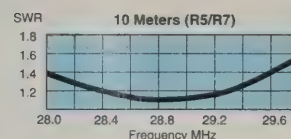
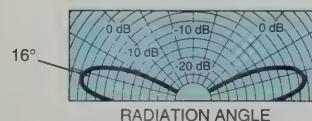
"It performed excellently even under extreme weather conditions both electrically and mechanically." (3Y2GV) Antarctica

"Tropical storm Zelda struck Kwajalein on Thanksgiving Day. . . As the beams blew down, my R7 vertical stayed up." (V73CT)

"Used R7 on IOTA EU-135 expedition. . . Beautiful performance!" (SM3DMP)

NO GROUND RADIALS

The R7 and R5 do not need ground radials. Because of their compact size, they are perfectly suited for almost any limited space application. Whether you're operating from a balcony, RV, rooftop or mobile environment, you will find the R7 and R5 to be exceptional performers.



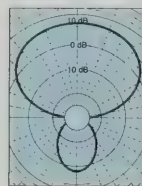
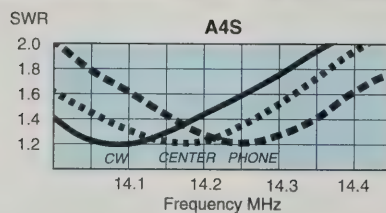
World Ranger Multiband HF Yagis

10, 15, 20, 40 METERS

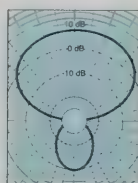
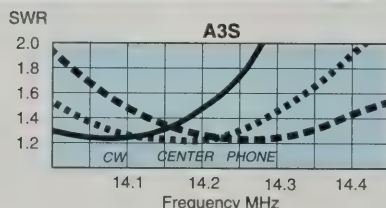
Cushcraft Tribanders Make More DX Fun!

Our three and four element tribanders provide the versatility and performance that you need for reliable communication around the world. And they last! Cushcraft's World Rangers are made with 6063-T832 aluminum tubing, weatherproof traps, and fiberglass insulators to stand up to the weather. Our World Rangers have 50 Ohm twin terminal connectors and need no balun. They are designed with fewer parts for easier assembly, lower weight and less windload. You will spend your time in the shack, not on the tower!

Ham radio is a lot more fun when you have a dependable antenna like our World Ranger. Make your choice from our A4S, A3S and A3WS models. Add a 30 or 40 meter kit to make your antenna even more versatile!



A4S RADIATION PATTERN



A3S RADIATION PATTERN

A4S Four Element Beam

With stainless steel hardware.

The A4S is the true, high performance tribander. Precisely tuned high-power traps, carefully selected element lengths, and proper spacing combine to make the A4S the preferred antenna for your contest work!

This is the premium antenna with all the features that you want. High gain, low SWR, and wide bandwidth keep the contacts coming in. All U-bolts, clamps and hardware are stainless steel. The A4S has pinned boom sections and formed aluminum brackets to keep elements straight under all conditions. And our solid construction keeps the A4S on the tower!

MODEL	A4S
Frequency, MHz	28, 21, 14
No. Elements	4
Forward Gain, dBd	8.9
Front to Back Ratio, dB	25
SWR 1.2:1 Typical	
2:1 Bandwidth KHz	>500
Power Rating, Watts PEP	2000
3 dB Beam Width, Deg. E Plane	58
Boom Length, ft (m)	18 (5.48)
Boom Diameter, in (cm)	2 (5.10)
Longest Element, ft (m)	32 (9.75)
Element Center Dia, in (cm)	1.25 (3.18)
Turning Radius, ft (m)	18.4 (5.49)
Mast Size Range, in (cm)	1.25-2.00 (3.18-5.08)
Wind Load, ft ² (m ²)	5.50 (0.51)
Weight, lb (kg)	37 (16.8)

A3S Three Element Beam

With stainless steel hardware.

The A3 World Ranger, our top selling tribander, has become the A3S with all stainless steel hardware. It's a real power-house in a small space and lets you work the pile-ups with confidence.

All you need is a lightweight tower and rotator to enjoy the benefits of the A3S. It's a proven performer in DX-peditions and contests and handles full power from your linear. Construction features include pinned boom sections, heavy duty element clamps with backing plates plus all stainless steel hardware.

When space is at a premium, but you want the benefits of a full-size tribander, the A3S is right for you!

MODEL	A3S
Frequency, MHz	28, 21, 14
No. Elements	3
Forward Gain, dBd	8
Front to Back Ratio, dB	25
SWR 1.2:1 Typical	
2:1 Bandwidth KHz	>500
Power Rating, Watts PEP	2000
3 dB Beam Width, Deg. E Plane	60
Boom Length, ft (m)	14 (4.27)
Boom Diameter, in (cm)	1.50 (3.81)
Longest Element, ft (m)	27.75 (8.45)
Element Center Dia, in (cm)	1.25 (3.18)
Turning Radius, ft (m)	15.50 (4.72)
Mast Size Range, in (cm)	1.25-2.00 (3.18-5.08)
Wind Load, ft ² (m ²)	4.36 (0.47)
Weight, lb (kg)	27 (12.9)

World Ranger Multiband HF Yagis

12, 17, 30 METERS

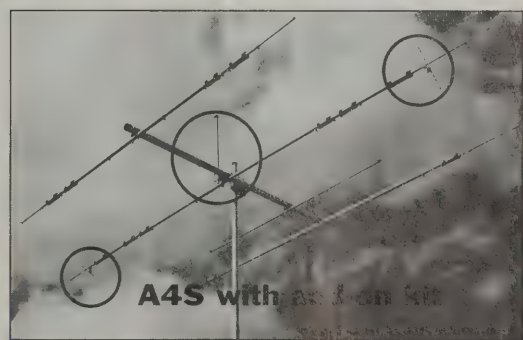
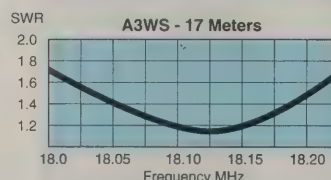
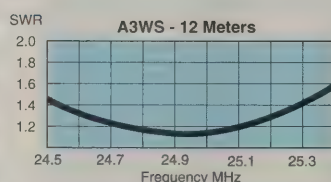


A3WS WARC Bands 3 Element Beam

Enjoy the excitement of our newest HF bands with this all new beam. The A3WS gives full performance on 12 and 17 meters. With the addition of our easy to use A103 add on kit, it will also cover 30 meters.

A3WS needs only a lightweight tower and rotator or you can mount it above an existing tribander. Construction features include pinned boom sections, heavy duty element clamps with backing plates plus all stainless steel hardware. Take charge of the 12, 17 and 30 meter bands with the new A3WS.

MODEL	A3WS
Frequency, MHz	24, 18
No. Elements	3
Forward Gain, dBd	8.0
Front to Back Ratio, dB	25
SWR 1.2:1 Typical	
2:1 Bandwidth KHz	300
Power Rating, Watts PEP	2000
3 dB Beam Width, Deg. E Plane	60
Boom Length, ft (m)	14 (4.27)
Boom Diameter, in (cm)	1.5 (3.81)
Longest Element, ft (m)	25.1 (7.66)
Element Center Dia, in (cm)	1.25 (3.18)
Turning Radius, ft (m)	14.4 (4.4)
Mast Size Range, in (cm)	1.25-2.0 (3.18-5.08)
Wind Load, ft ² (m ²)	4.1 (.38)
Weight, lb (kg)	22.5 (10.2)



30 and 40 Meter Add-On Kits

40 meters will come alive by adding one of these kits to the dipole of your A3S or A4S. The kits include high power traps with heavy wall fiberglass insulator and all hardware. A simple adjustment allows 30 meter operation. For our newest beam, the A3WS, we have a 30 meter add on kit the A103.

- A743 7 MHz/10 MHz kit for A3S
- A744 7 MHz/10 MHz kit for A4S
- A103 10 MHz kit for A3WS

MODEL	A743/A744	A103
BAND	7 MHz (40 m) 10 MHz (30 m)	10 MHz (30 m)
Driven Element with Adapter kit, ft (m)	33.19 min. 35.33 max. (10.12-10.77)	27.12 min. 28.4 max. (8.27-8.66)
Windloading ft ² (m ²)	.58 (.05)	.27 (.03)
Bandwidth, KHz	125	150
Power Rating, Watts	2000 PEP	2000 PEP
Side Rejection, dB	20	20
Weight, lb (kg)	3.44 (1.56)	2.29 (1.04)



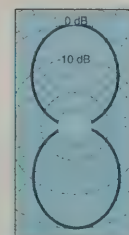
Rotatable Dipoles

Our World Ranger Dipoles give bi-directional patterns and rotatable convenience. You can mount them high and away from the trees for better performance than a wire dipole. These single and multi-band dipoles feature high-performance traps, heavy wall tubing, and rugged hardware for years of enjoyment.

D3W World Ranger Dipole

The perfect answer for the WARC bands. This rotatable dipole is easily mounted on the same mast as your existing tri-bander or other antennas. With a bi-directional pattern it will give you amazing performance on the new bands.

MODEL	D40	D4	D3	D3W
Frequency, MHz	7	28,21,14,7	28,21,14	24,18,10
SWR 1.2:1 Typical				
2:1 Bandwidth, KHz	200	>350 40>125	>500	>200
Power Rating				
Watts PEP	2000	2000	2000	2000
Length ft (m)	42.25 (12.88)	35.8 (10.92)	25.8 (7.86)	34.0 (10.37)
Mast Size, in (cm)	1.5-2 (3.8-5)	1.5-2 (3.8-5)	1.5-2 (3.8-5)	1.5-2 (3.8-5)
Wind Load, ft ² (m ²)	1.3 (.12)	1.3 (.12)	.9 (.08)	.9 (.08)
Weight, lb (kg)	12 (5)	13 (6)	9 (4)	11 (5)



TYPICAL DIPOLE RADIATION PATTERN

Multiband HF Quarterwave Verticals

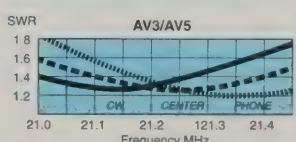
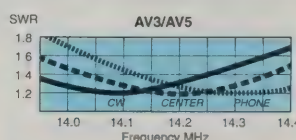
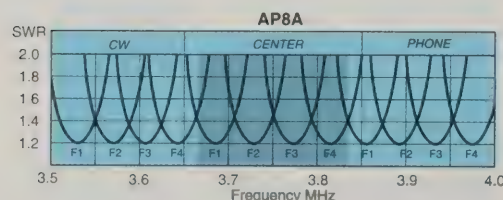
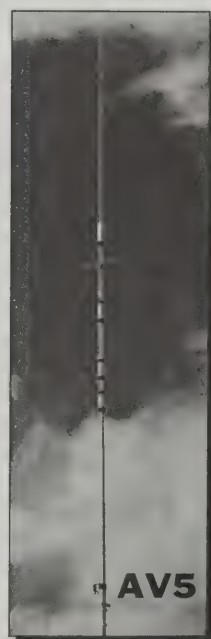
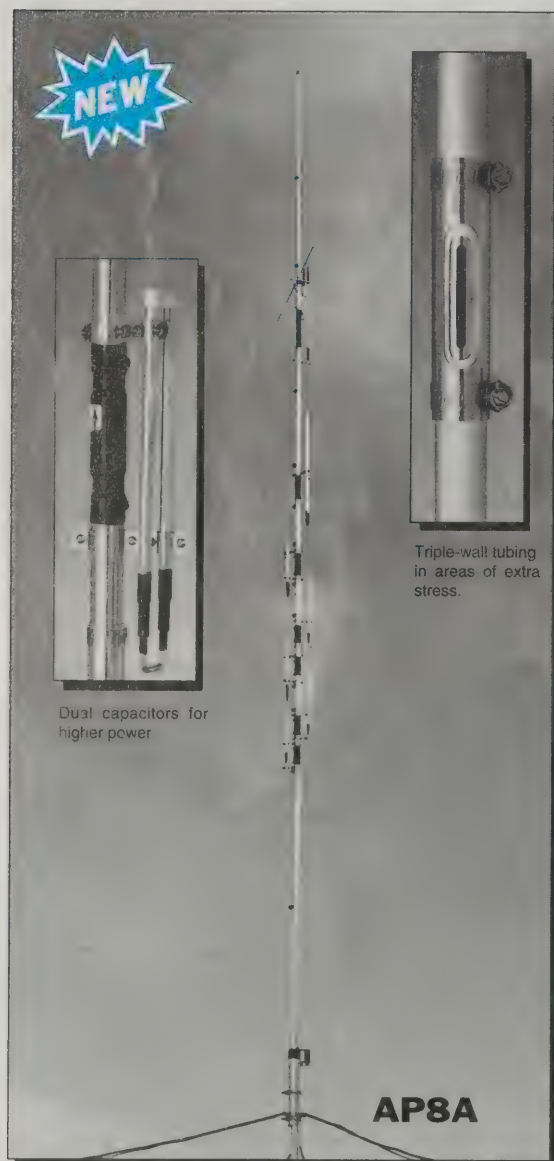
10 THROUGH 80 METERS

Up to eight bands await you with Cushcraft's popular multiband vertical antennas! New this year is the AP8A, a rugged 8 band.

Multiband verticals are a cost effective solution to the space problems that many of us face. Cushcraft AV3, AV5 and AP8A verticals are the right choice when a beam is not practical.

Our AV3 three-band and AV5 five-band are economical and offer good performance. They may be your first choice in multiband verticals because of their broadband performance, enclosed traps, and stainless steel hardware.

AP8A, AV3 AND AV5 REQUIRE RADIALS



NEW AP8A, Eight Bands In One Tough Antenna

The AP8A is the next generation eight-band quarterwave that has been strengthened with thick wall tubing, up to three layers deep in some sections, and high tensile strength fiberglass. The traps have been beefed up to handle the legal limit and are moisture sealed. You can be up and running on 10 through 80 meters in no time. (The APR-18A Radial Kit will make the job even easier.) The key to the AP8A's eight band coverage is the automatic bandswitching and efficient traps. The traps are parallel LC circuits which allow broadband operation. The AP8A is a very popular antenna with new hams because it's such a great value. Eight bands in one rugged antenna at an affordable price.

MODEL	AP8A
Frequency, MHz	28, 24, 21, 18, 14, 10, 7, 3.5
Electrical Wavelength	1/4
SWR 1.2:1 Typical	
2:1 Bandwidth	Full Band Except 40M>150 KHz & 80 M>80 KHz
Power Rating, Watts PEP	2000
Radiation Angle, degrees	18
Frequency Selection	Automatic
Horizontal Radiation Pattern, degrees	360
Height, ft (m)	26 (7.92)
Mast Size Range, in (cm)	1.5-1.75 (3.8-4.4)
Wind Load, ft ² (m ²)	1.7 (.16)
Weight, lb (kg)	9.5 (4.3)
Radials Required	Normally
Radial Kit Available	Yes, APR18A

NEW APR18A Radial Kit

The all new Cushcraft APR-18A radial kit is the perfect match for the AP8A, AV3, AV5, or any quarterwave amateur HF vertical where a good low angle signal on the horizon and a low VSWR are important. The kit offers maximum performance on all HF bands and consists of only 9 multiple and single-conductor radials, with a maximum length of only 31 feet. It's great for quick installation at either ground level or rooftop sites.

AV3 Three Band & AV5 Five Band

Our AV3 handles 10, 15, and 20 meters with fine performance and easy assembly. It has the same rugged construction as the AV5. The AV5 works with the popular 10, 15, 20, 40 and 80 meter bands with broad bandwidth and full legal power. For versatility, this is the antenna for you!

MODEL	AV3	AV5
Frequency, MHz	28, 21, 14	28, 21, 14, 7, 3.5
Electrical Wavelength	1/4	1/4
SWR 1.2:1 Typical		
2:1 Bandwidth	Full Band	Full Band except 80 M>70 KHz
Power Rating, Watts PEP	2000	2000
Radiation Angle, degrees	18	18
Frequency Selection	Automatic	Automatic
Horizontal Rad. Pattern, deg.	360	360
Height, ft (m)	14 (4.2)	25 (7.4)
Mast Size Range, in (cm)	1.5-1.75 (3.8-4.4)	1.5-1.75 (3.8-4.4)
Wind Load, ft ² (m ²)	1.02 (.1)	1.89 (.19)
Weight, lb (kg)	5 (2.3)	8 (3.6)
Radials Required	Normally	Normally
Radial Kit Available	Yes, APR18A	Yes, APR18A

Skywalker Monoband HF Yagis

10, 15 METERS

10 Meters

The three element model is a great selling antenna! If you have the space, and need the utmost in performance, then try our four element Skywalker. You can't go wrong with these contest winners, especially if you are a Novice new to ten meters!

MODEL	10-4CD	10-3CD
Frequency, MHz	28.0-29.7	28.0-29.7
No. Elements	4	3
Forward Gain, dBd	10.0	8.0
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	>900	>1400
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Deg. E Plane	56	57
Side Lobe Attenuation, dB	40	40
Boom Length, ft (m)	16 (4.88)	10 (3.05)
Boom Diameter, in (cm)	2.0 (5.08)	1.63-1.50 (4.1-3.8)
Longest Element, ft (m)	17.58 (5.34)	17.66 (5.38)
Element Center Dia, in (cm)	.88-.63 (2.2-1.6)	.88-.63 (2.2-1.6)
Turning Radius, ft (m)	11.5 (3.5)	10 (3.05)
Mast Size Range, in (cm)	1.5-2.0 (3.8-5.1)	1.5-2.0 (3.8-5.1)
Wind Load, ft ² (m ²)	3.1 (.29)	2.3 (.21)
Weight, lb (kg)	18 (8.16)	11 (5.00)

15 Meters

These two Skywalkers will keep you enthusiastic about 15 meters. Our three element model gives fine performance in limited areas. For maximum gain, select the four-element model with its new 2" diameter boom. Or, try stacking two four element Skywalkers for incredible performance! Reddi-match tuning makes it easy.

The 10dB forward gain of our 15-4CD is the result of computer design and will keep you the first in line during pileups!

MODEL	15-4CD	15-3CD
Frequency, MHz	21.0-21.45	21.0-21.45
No. Elements	4	3
Forward Gain, dBd	10.0	8.0
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	500	500
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Deg. E Plane	56	57
Side Lobe Attenuation, dB	>40	>40
Boom Length, ft (m)	20 (6.10)	14 (4.27)
Boom Diameter, in (cm)	2.0 (5.08)	2.0 (5.08)
Longest Element, ft (m)	23.33 (7.11)	23.16 (7.06)
Element Center Dia, in (cm)	1 (2.5)	1 (2.5)
Turning Radius, ft (m)	15.4 (4.72)	13.5 (4.11)
Mast Size Range, in (cm)	1.5-2.0 (3.8-5.1)	1.5-2.0 (3.8-5.1)
Wind Load, ft ² (m ²)	4.5 (.42)	3.4 (.32)
Weight, lb (kg)	25 (11.34)	20 (9.07)



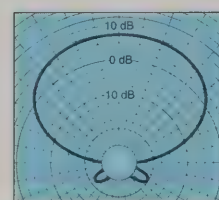
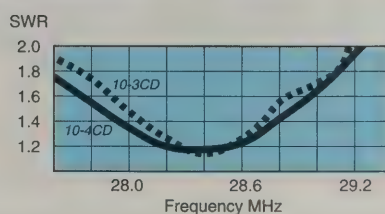
More Performance Than You Ever Imagined

More contacts, less waiting, less interference, and a better signal at the other end are yours with a Skywalker!

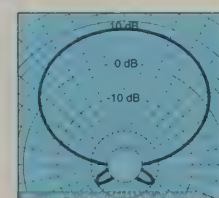
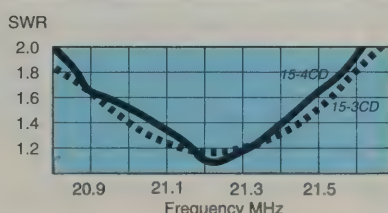
Computer-aided design helped us maximize forward gain while reducing sidelobes and SWR. Our 50 Ohm Reddi-match feed uses a UHF SO-239 for easy connection.

Construction features include improved larger diameter pinned booms with fewer sections, heavy-wall heat treated 6063-T832 aluminum tubing, stainless steel fasteners, worm drive element clamps, and carefully formed aluminum brackets.

Assembly is easy and installation can often be done by one person! Skywalkers are contest winners. One of these fine antennas is perfect for you.



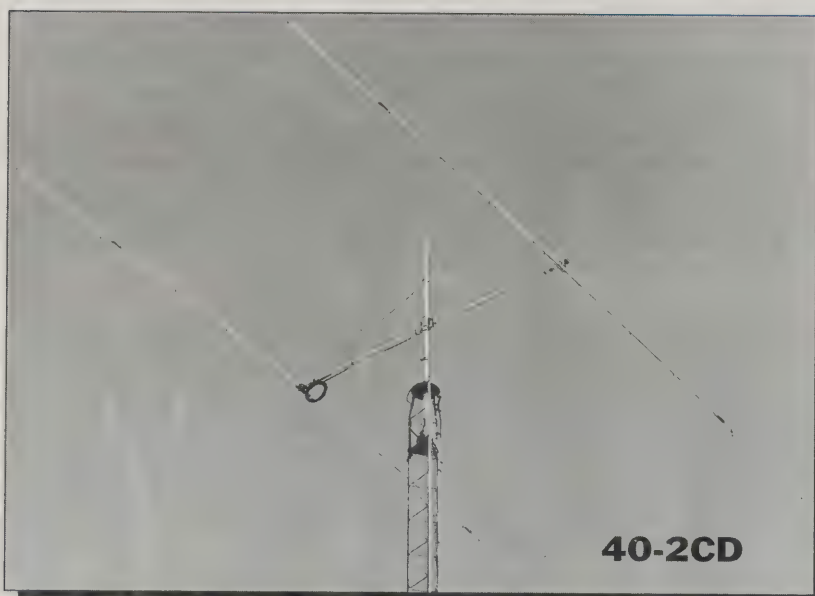
TYPICAL 3 ELEMENT PATTERN



TYPICAL 4 ELEMENT PATTERN

Skywalker Monoband HF Yagis

10, 20, 40 METERS



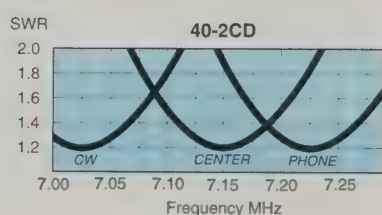
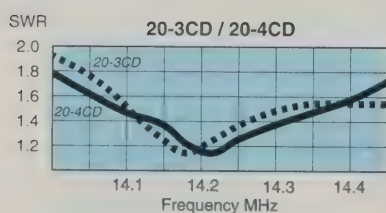
40-2CD



20-4CD



TEN-3



40 Meters

This Skywalker holds the North American contact record for 40 meters. A two element compact antenna, it has the performance that you want for 7 MHz work. The dipole center insulator is heavy duty with a twin terminal 50 Ohm connection. It is by far the most popular two element 40 meter beam!

20 Meters

Our four-element 20 meter Skywalker and its three element compact version will punch your signal through the QRM.

Stainless steel fasteners and double U-bolt brackets ensure that your antenna will last for years.

10 Meters TEN-3

Looking for a lightweight, economical alternative to the 10 meter Skywalkers? Choose the TEN-3. Although its popular with novices and technicians, this antenna is for any ham who wants more gain with a good front to back ratio on 10 meters. This antenna has an 8 foot boom making it easy to install on a very simple mount with only a lightweight rotator. The matching system is our proven Reddi Match for 50 Ohm no balun feed and SO-239 connector. Make more positive contacts with the new TEN-3.

MODEL	40-2CD	TEN-3
Frequency, MHz	7.0-7.3	28-29.7
No. Elements	2	3
Forward Gain, dBd	5.5	8
Front to Back Ratio, dB	20	25
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	200	>1500
Power Rating, Watts PEP	2000	2000
3dB Beamwidth, Degrees		
E Plane	70	64
Side Lobe Attenuation	>40	>40
Boom Length, ft (m)	23(6.9)	8 (2.44)
Boom Diameter, in (cm)	2.13-1.88(5.4-4.8)	1.38-1.25(3.5-3.2)
Longest Element, ft (m)	43 (12.9)	18 (5.49)
Element Center Dia., in (cm)	1.25 (3.1)	.75 (1.9)
Turning Radius, ft (m)	23.93 (7.29)	9.8 (3.0)
Mast Size Range, in (cm)	1.5-2(3.8-5.1)	1.5-2(3.8-5.1)
Wind Load, ft ² (m ²)	6.38 (.57)	2.0 (.20)
Weight, lb (kg)	44 (19.8)	9.9 (4.45)

MODEL	20-4CD	20-3CD
Frequency, MHz	14.0-14.35	14.0-14.35
No. Elements	4	3
Forward Gain, dBd	10.0	8.0
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	>400	>300
Power Rating, Watts PEP	2000	2000
3dB Beamwidth, Degrees		
E Plane	56	57
Side Lobe Attenuation, dB	>40	>40
Boom Length, ft (m)	32 (9.75)	20 (6.1)
Boom Diameter, in (cm)	2.13-1.88(5.4-4.8)	2.0 (5.08)
Longest Element, ft (m)	36.08 (11.00)	35.95(10.96)
Element Center Dia., in (cm)	1.25 (3.1)	1.25 (3.1)
Turning Radius, ft (m)	23.75 (7.2)	20 (6.1)
Mast Size Range, in (cm)	1.5-2(3.8-5.1)	1.5-2(3.8-5.1)
Wind Load, ft ² (m ²)	8.1 (.75)	5.5 (.51)
Weight, lb (kg)	55 (24.95)	30 (13.61)

Boomer Sideband/CW Yagis



2 METERS

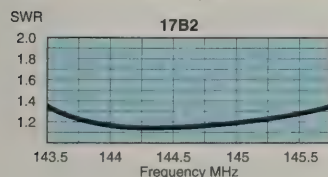
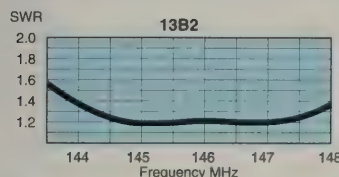
17B2 - 17 Element CW/SSB

The serious two meter operator who is interested in EME, aurora, scatter, SSB, CW, tropo etc, will choose the 17B2. It has 17 elements on a 4.5 wavelength boom. Our computer-aided design supported by precise test range data and the latest manufacturing technology gives you a cleaner pattern and 18 dBd gain in this long boom design. Significant enhancement is provided by the new UltraMatch balanced feed system with N-connector. The improved Boomer brace system is easier to install. 17B2 is a new stronger Boomer with a cleaner profile, less weight and wind load. All these features result in contest winning performance and more day to day operating enjoyment.

13B2 -13 Element Wideband

The new 13B2 is as versatile as the 17B2 is specialized. 13B2 will be your choice for high performance across the entire 2 meter band. New and experienced hams will enjoy 15.8 dBd gain on FM, packet, CW, or sideband across the 4 MHz operating range. The 13B2 is easily mounted vertically or horizontally for maximum performance on your favorite mode. Its optimum boom length makes it a popular antenna that fits just about anywhere. The new UltraMatch balanced feed on the 13B2 provides a 50 Ohm match via a standard SO-239 UHF female connector.

MODEL	124WB	13B2	17B2
Frequency, MHz	144-148	144-148	144-145
No. Elements	4	13	17
Forward Gain, dBd	10.2	15.8	18.0
Front to Back Ratio, dB	19	26	26
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>4	>4	>2
Power Rating, Watts PEP	2000	2000	2000
3 dB Beamwidth, Degrees			
E Plane	60	2 x 18	2 x 14.5
H Plane	88	2 x 19	2 x 15
Side Lobe Atten., dB, E Plane	40	>60	>60
Boom Length, ft (m)	4 (1.22)	15 (4.57)	31 (9.45)
Electrical Wavelength	.5	2.2	4.5
Longest Element, in (cm)	40.75 (104)	39.75 (101)	40.75 (103.5)
Turning Radius, ft (m)	4 (1.22)	8.9 (2.7)	17.25 (5.26)
Mast Size Range, in (cm)	1.25-2 (3.2-5.1)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)
Wind Load, ft ² (m ²)	.34 (.034)	1.8 (.17)	3.9 (.36)
Weight, lb (kg)	3 (1.36)	6.7 (.31)	15.75 (7.14)



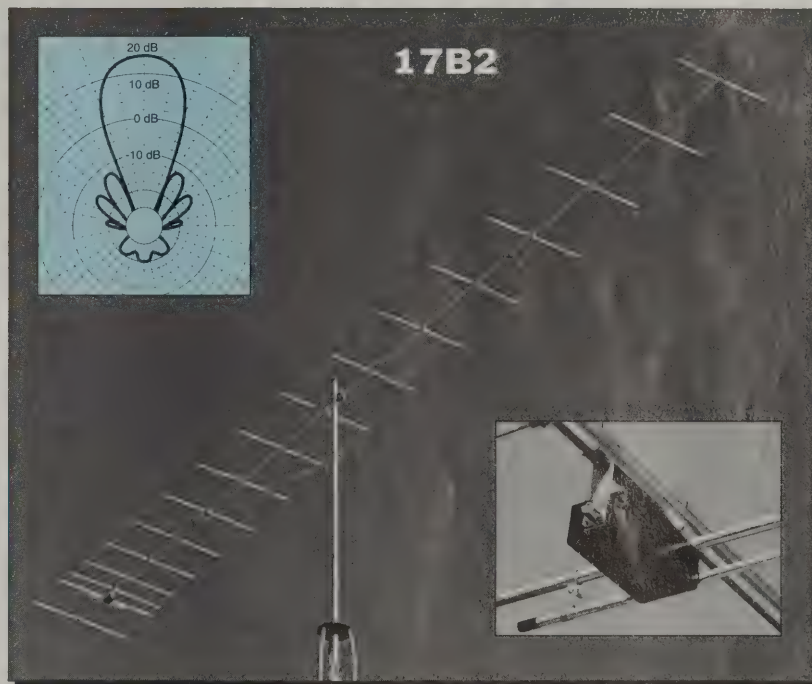
Boomers are easily stacked for more gain. See page 17 for details.

"The 13B2 was very easy to assemble. Very good instructions. High quality parts. A very neat looking antenna." (NM8T)
 "Reliable contacts [on 13B2] to repeaters 100 miles using low power. Horizontally polarized 150 miles plus." (N9MHV)
 "New 17B2 is nice improvement over 4218XL both mechanically and electrically." (VE3ASO)

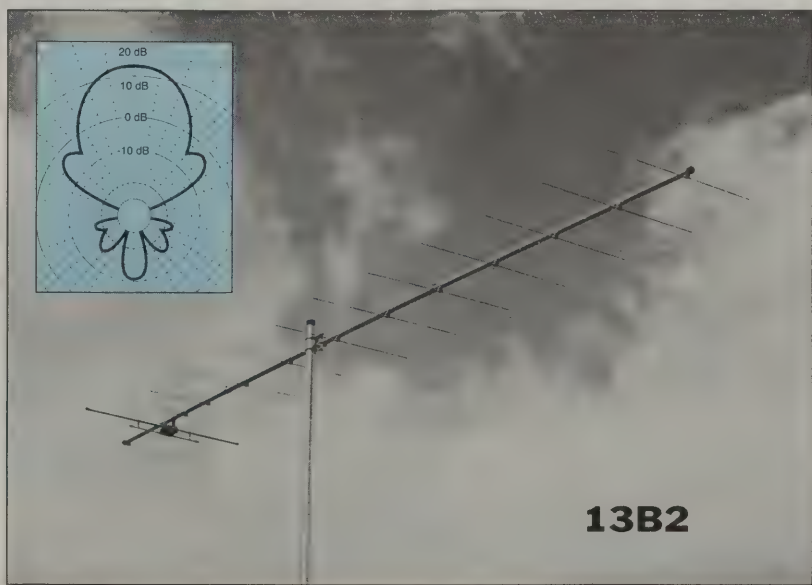
The Boomer tradition continues.

New Boomers offer more gain and cleaner patterns with greater mechanical strength. New element spacings and lengths plus an improved feed system make it happen. Select from the 17B2 for the strongest signal on the low end of the band or the 13B2 for broadband performance across the band.

Cushcraft Boomers all feature solid rod elements, stainless steel hardware and very easy to follow assembly instructions. Simple tools and a little time are all that are needed for assembly. The new Boomer line will make your operating time more rewarding and enjoyable. Move up to the new Boomers today.

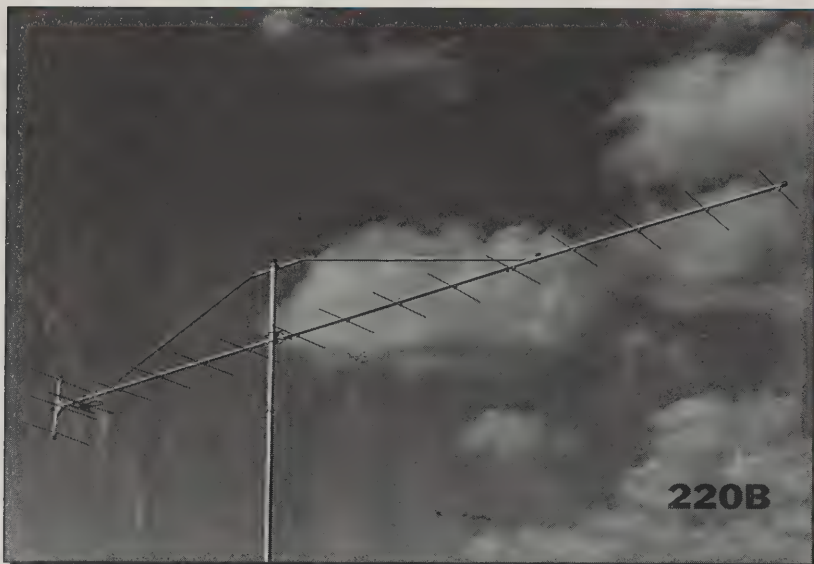


The new Cushcraft UltraMatch is a modified T-match system that provides a balanced current distribution on your Boomer. It uses UltraLink teflon® dielectric cable allowing for low loss high power applications. UltraMatch is completely enclosed for weather proofing. UltraMatch features an N-connector on the 17B2 and UHF SO239 on the 13B2. When all weather performance is important, you will choose the new UltraMatched Boomers everytime.



Boomer Sideband/CW Yagis

70 CM, 1 1/4, 6 METERS



220B

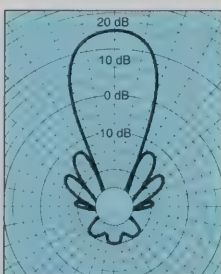


617-6B



424B

TYPICAL RADIATION
PATTERN



1 1/4 Meters

We took the features of our 2 meter antennas and incorporated them into a high-gain 1-1/4 meter antenna that is perfect for this fast growing band. You will have more fun with Cushcraft!

MODEL	220B
Frequency, MHz	222-223
No. Elements	17
Forward Gain, dBd	17.2
Front to Back Ratio, dB	30
SWR 1.2:1 Typical	
2:1 Bandwidth MHz	>2
Power Rating, Watts PEP	2000
3 dB Beamwidth, Degrees	
E Plane	2 x 13
H Plane	2 x 14
Side Lobe Atten., dB, E Plane	60
Boom Length, ft (m)	19 (5.8)
Electrical Wavelength	4.2
Longest Element, in (cm)	26 (66.2)
Turning Radius, ft (m)	9 (2.64)
Mast Size Range, in (cm)	1.5-2 (3.8-5.1)
Wind Load, ft ² (m ²)	2.6 (.24)
Weight, lb (kg)	10.5 (4.77)

6 Meters

Our 617-6B has more gain than any antenna in its class! The serious 6 meter operator will appreciate the features of this great performing Boomer. Find out for yourself.

MODEL	617-6B	424B
Frequency, MHz	50-51	424-435
No. Elements	6	24
Forward Gain, dBd	14.0	18.2
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth MHz	>1	>12
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Degrees		
E Plane	2 x 19	2 x 9.5
H Plane	2 x 20	2 x 11
Side Lobe Atten., dB, E Plane	60	60
Boom Length, ft (m)	34 (10.36)	17.4 (5.3)
Electrical Wavelength	1.7	7.6
Longest Element, in (cm)	117 (297.2)	13 (33.8)
Turning Radius, ft (m)	17.7 (5.39)	10 (3.05)
Mast Size Range, in (cm)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)
Wind Load, ft ² (m ²)	4.8 (.45)	2.3 (.21)
Weight, lb (kg)	26 (11.79)	4.5 (2.05)

70 CM

The contest winner! The 424B will keep you at the top of the charts. Through-the-boom insulated elements, precise spacing, and high efficiency reflector systems are the features that make our 70 cm antennas the right choice for every ham. The 424B has an eye-opening 18.2 dBd forward gain for the ultimate in 70 cm enjoyment.

These boomers are equipped with stainless steel hardware, UV stabilized insulators, teflon® dielectric coaxial balun, seamless heavy-wall booms, and 50 Ohm N connector.

Equip yourself for fun and challenge of 70 cm with a Cushcraft Boomer!

Boomer FM Yagis

1¹/₄, 2 METERS

13B2 - 13 Element Wideband

Boomer evolution continues with the 13B2. This new design is lighter weight, lower profile and has more gain and a cleaner pattern. New technicians and experienced hams will enjoy 15.8 dBd gain on FM, packet, CW, or sideband. 13B2 is easily mounted vertically for greatest FM distance and enjoyment. Its optimum boom length makes it a popular antenna that fits almost anywhere. The new balanced UltraMatch provides a 50 Ohm UHF connector for easy feedline attachment. Stronger performance in the 215WB tradition will be yours with the 13B2.

26B2 - 26 Element Wideband

This antenna offers the highest gain of any 2 meter FM antenna in the world. Select the 26B2 when you need to work repeaters or simplex over extreme distances.

124WB - 4 Element Wideband

This is the right choice for packet systems and other applications requiring a dedicated directional antenna.

MODEL	124WB	13B2	26B2
Frequency, MHz	144-148	144-148	144-148
No. Elements	4	13	26
Forward Gain, dBd	10.2	15.8	18.8
Front to Back Ratio, dB	19	26	26
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>4	>4	>4
Power Rating, Watts PEP	2000	2000	2000
3dB Beamwidth, Degrees			
E Plane	60	2x18	2x18
H Plane	88	2x19	2x9.5
Side Lobe Attenuation, dB, E Plane	40	>60	>60
Boom Length, ft (m)	4 (1.22)	15 (4.57)	15 (4.57)
Electrical Wavelength	.5	2.2	2.2
Longest Element, in (cm)	40.75 (104)	39.75 (101)	39.75 (101)
Turning Radius, ft (m)	4 (1.22)	8.9 (2.7)	10.4 (3.18)
Mast Size Range, in (cm)	1.25-2 (3.2-5.1)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)
Wind Load, ft ² (m ²)	.34 (.034)	1.8 (.17)	4.84 (.45)
Weight, lb (kg)	3 (1.36)	6.7 (.31)	21.5 (9.75)

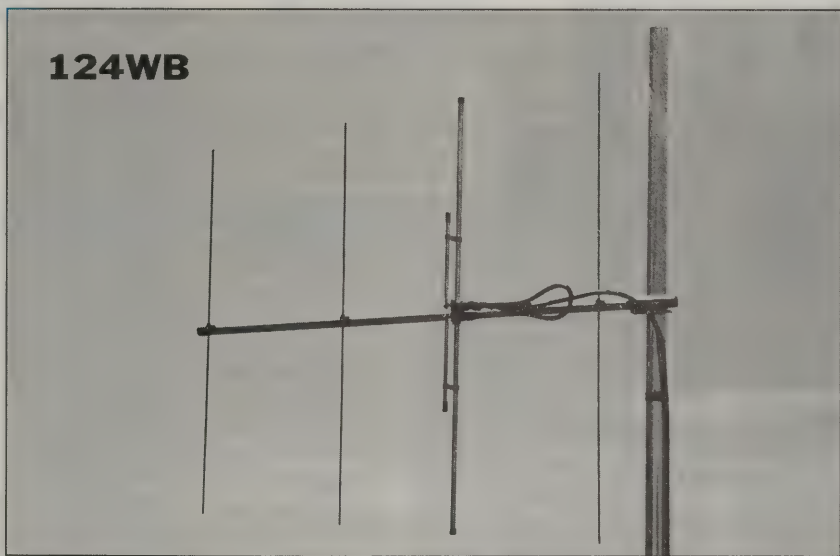
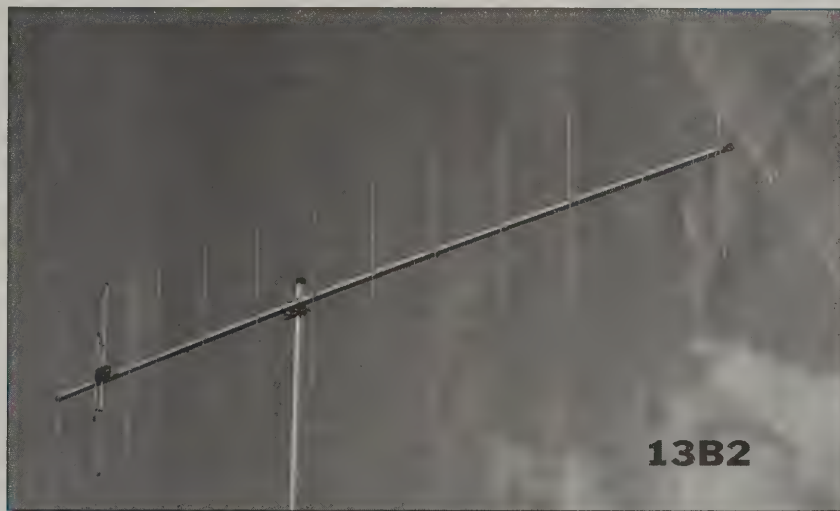
MODEL	224WB	225WB
Frequency, MHz	222-225	222-225
No. Elements	4	15
Forward Gain, dBd	10.2	15.5
Front to Back Ratio, dB	24	24
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>5	>5
Power Rating, Watts PEP	2000	2000
3dB Beamwidth, Degrees		
E Plane	60	2x17
H Plane	88	2x19
Side Lobe Attenuation, dB E Plane	40	60
Boom Length, ft (m)	3 (.91)	10 (3.05)
Electrical Wavelength	0.5	2.2
Longest Element, in (cm)	26.7 (68)	26.3 (67)
Turning Radius, ft (m)	3 (.91)	5.8 (1.78)
Mast Size Range, in (cm)	1.25-2 (3.2-5.1)	1.25-2 (3.2-5.1)
Wind Load, ft ² (m ²)	.23 (.021)	.95 (.09)
Weight, lb (kg)	1.7 (.77)	5.25 (2.4)



All of these antennas give you hot performance with light weight and minimum windload. Stainless steel hardware, solid rod elements and hard drawn aluminum tubing assure you that the antenna will last.

224WB/225WB - 220 MHz Widebands

Perfect for the novice phone band and other 220 MHz operation.



Dual Band Ringos/Mobile

70 CM, 2 METERS

Cushcraft brings you the leading edge of dual band technology with new 70cm/2m products – The All-American Dual-Bander, a high performance fiberglass base antenna and the CS-270M mobile mag-mount. These great products will complement our already proven AR-270 dual-band compact base antenna.

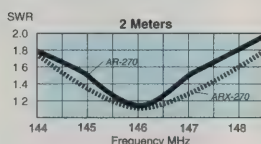
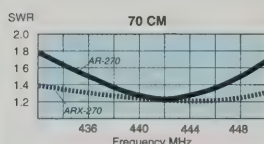
ARX-270 DUAL BAND

All-American Dual Band Ringo

Cushcraft's new ARX-270 high performance fiberglass base antenna yields a gain of 9 dB on VHF and 12 dB on UHF. Our exclusive non-metallic U.V. stabilized couplings result in the cleanest pattern of any dual band antenna. The radome is bright white, thick-wall fiberglass that will survive 90 mph winds. The three section design allows easy assembly and is U.P.S. shippable. Our sleek extruded base clamps eliminate vibration and they look great. Professional features like the factory installed pigtail feed and choice of UHF or N connector makes weather-proof connections easy. These technical innovations put the ARX-270 miles ahead.

The All-American Dual-Bander comes factory tuned and does not require any adjustments. The ultimate in dual-band FM enjoyment can be yours with the ARX-270.

- ARX-270U with UHF connector
- ARX-270N with N-connector



Made from a very tough copper alloy, the matching networks' coil for both the CS-270M and the ARX-270 are silver plated. The entire matching network is built on a PC board that surrounds the coil. This assures that the antenna will not detune and will operate at peak efficiency for many years.

MODEL	ARX-270U/N	
Frequency, MHz	144-148	430-450
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>4	>20
Gain, dB	9	12
Power Rating, Watts FM	200	200
Horizontal Radiation		
Pattern, Degrees	360	360
Height, ft, (m)	16.5 (5)	
Mast Size Range, in	1.25-2 (3.2-5.1)	
Radial Length, in (cm)	20.5 (52.1)	
Wind Load, ft ² (m ²)	0.95 (0.088)	
Weight, lb (kg)	5 (2.3)	

NEW CS-270M 70 CM/2 M Mobile

The CS-270M offers the most gain possible in its compact size. It has 6 dB on 440 and 3.7 dB on 2 meters all in a 36-1/2" tall design. The small coil is insert molded into the center of the radiator. No moisture can penetrate the coil with this technique. The magnetic mount features a clinging 90 pound pull and a roof-protecting rubber pad. The feed line is double shielded Teflon® UltraLink Cable.™ Its low-loss, high temperature and designed to last. The CS-270M has all of the features you will need in a dual-band mobile antenna.

CS-270M DUAL BAND



Experience the performance and appearance advantages of all-aluminum dual band antennas. Both models incorporate Ringo Ranger technology in lightweight and durable designs with stainless steel hardware. Their weather-sealed phasing coils and base matching networks eliminate stray RF currents while providing a very low angle of radiation. A simple 50 Ohm cable connection is all you need to experience the full performance of your dual band 2m/70cm transceiver.

NEW AR-270B 5.5/7.5 dB Dual Band Ringo

This all new model gives very high gain with a low angle of radiation and it is only 7.7 feet (2.35 m) high. The AR-270B is computer optimized with two 5/8 wavelength collinear elements on 2 meters and four 5/8 wavelength elements on 70 cm. It is broadbanded for minimum SWR on both bands. It is easy to assemble with three rugged aluminum tubing sections, a durable mast mount and factory sealed coils for best performance.



AR-270 3.7 / 5.5 dB Dual Band Ringo

The "Dual Wonder" AR-270 is only 3.75 feet (1.1 meters) high. It has great performance for its size, making it the most popular 2m/70 cm base antenna. Mount it anywhere from table top to roof top. You'll enjoy the performance.

MODEL	AR-270		AR-270B	
Frequency, MHz	144-148	430-450	144-148	430-450
SWR 1.2:1 Typical				
2:1 Bandwidth, MHz	>4	>15	>4	>15
Gain, dB	3.7	5.5	5.5	7.5
Power, Watts FM	250	250	250	250
Horizontal Radiation				
Pattern, Degrees	360	360	360	360
Height, ft, (m)	3.75 (1.13)		7.7 (2.3)	
Mast Size Range, in	1.25-2 (3.2-5.1)		1.25-2 (3.2-5.1)	
Radial Length, in (cm)	6.75 (17.1)		20 (51)	
Wind Load, ft ² (m ²)	0.27 (0.03)		0.47 (0.044)	
Weight, lb (kg)	2 (0.9)		2.4 (1.09)	

Ringo Ranger II

70 CM, 1 $\frac{1}{4}$, 2 METERS



Our Ringos are Number One.

Tough performers at a good price! The Ringo family of dependable, cost-effective antennas has served more hams – from novice to veteran extra – than any other amateur antenna made. Simple, straightforward design, light weight and quick, easy installation make the durable Ringo family right for you.

Ringo's top performance and low cost mean more dB per dollar – an equation anyone can appreciate.

Ringo Ranger II

Our Ringo Ranger II has more gain, less windload, and more mechanical integrity than other two meter antennas. You'll quickly appreciate the benefits of this amazing antenna! Based on the original W1BX Ringo, the Ringo Ranger II is the latest design featuring three 5/8 wave radiating elements and an adjustable 1/8 wave phasing stub. The result is a very low angle of radiation over your coverage area.

The Ringo Ranger II has built-in lightning protection, UV-stabilized insulators, heavy wall tubing, improved decoupling radials to eliminate feedline radiation, and all-weather performance. The ARX-450BN has all the features of the standard antenna plus N-connector.

Ringo Ranger II. It's the performer. Over 500,000 have been sold!

MODEL	ARX-2B	ARX-220B	ARX-450B
Frequency, MHz	135-160	222-225	435-450
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>3	>5	>10
Gain, dB	7.0	7.0	7.0
Power Rating, Watts FM	1000	500	500
Radiation Angle, Deg.	7	7	7
Horizontal Radiation			
Pattern, Degrees	360	360	360
Ring Diameter, in (cm)	5 (12.7)	5 (12.7)	3.5 (8.9)
Radiator Base Dia, in (cm)	.75 (1.9)	.75 (1.9)	.50 (1.2)
Height, ft, (m)	14 (4.3)	9.3 (2.8)	4.9 (1.5)
Mast Size Range, in (cm)	1.0-1.25 (2.54-3.1)	1.0-1.25 (2.54-3.1)	.75-.88 (1.9-2.22)
Radial Length, in (cm)	20.5 (52.1)	13.75 (33.7)	6.75 (17.1)
Wind Load, ft ² (m ²)	0.5 (0.05)	0.3 (0.03)	0.2 (0.02)
Weight, lb (kg)	6 (2.7)	5 (2.3)	1 (.45)

Some hams comment on the ARX-2B:

"Since I put this antenna up I have received many compliments on the improvement of my signal." (N3LHP)

"The only antenna I ever installed that worked like it should the first time." (N7PGH)

"ARX-2B is a good antenna for my use on 2 meters FM...Several on the air in my area." (N9OPL)

"ARX-2B...the best antenna." (XE2CLB)

ARX-2B

ARX-450B

ARX-220B

Mobile Antennas

70 CM, 1¹/₄, 2, 6, 10 METERS

CS28M Ten Meter Mag-Mount

Work a new country while you wait for the light to change. Introduced just last year, the CS28M ten meter mag-mount has become a constant companion to today's popular 10 meter multimode mobile rigs. The CS28M comes complete, ready to go with a 49" stainless steel whip and spring and a Euro-Style black poly-coated 90 pound pull magnet. A heavy rubber pad protects your car's finish; twelve feet of Cushcraft's own UltraLink™ low-loss cable (specifically designed for commercial mobile applications to 900 MHz) and PL-259 connector are included with the CS-28M.

Gain and Quarterwave Mobile Antennas

Cushcraft's years of commercial and amateur experience apply cutting-edge designs to consistently high quality materials to produce the best mobile antennas you can buy.

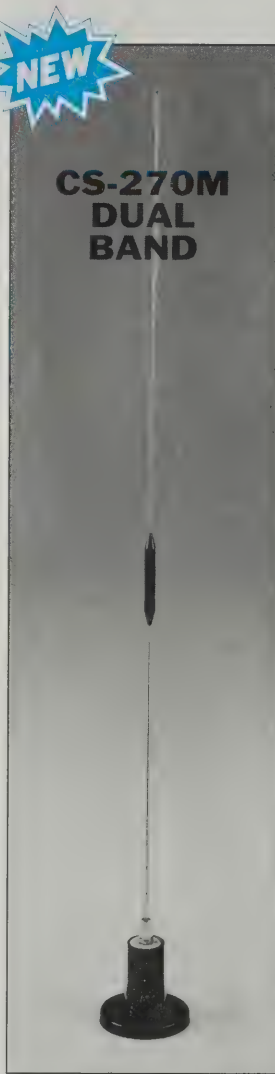
All inductors (and even the coil contacts) are silver plated for better RF conductivity, and all Cushcraft mobile hardware is brass to prevent the seizing inherent with inferior, dissimilar-metal joints. All Cushcraft mobile coil housings are ABS, impervious to temperature changes and ultraviolet radiation. Brass base threads, ultrasonically welded into coil housings, eliminate premature failures associated with inferior fastening techniques, and Cushcraft insert-molded 440 MHz phasing coils assure weather-tight integrity. Only Cushcraft mobile antenna mounts are *entirely* 50 Ohms, eliminating lossy "VSWR bumps" common in many well known designs. Cushcraft quarter-wave models (CS1147 and CS1450) are broadband, require no tuning and include UltraLink™ low loss cable.

Magnetic Mounts

Cushcraft mag-mounts *stay where you put them*. Our 90 pound pull magnets are the strongest you'll find. Euro-style black poly finish protects against rust, and a tough rubber pad gives maximum protection to your vehicle's finish. Ultra-Link™ cable on *all* Cushcraft mobile antennas means more of your signal reaches your antenna every time you key the mike.

NEW CS-270M Dual-Band Mobile

See page 10 for a full description of this new 70cm/ 2 meter mag-mount mobile.



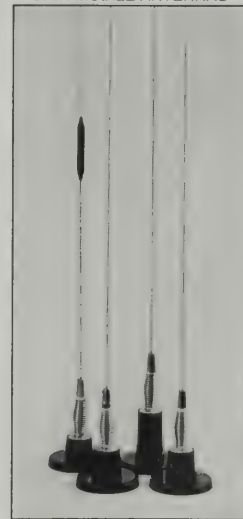
**CS-270M
DUAL
BAND**

SEE YOUR LOCAL DEALER'S CUSHCRAFT MOBILE DISPLAY.



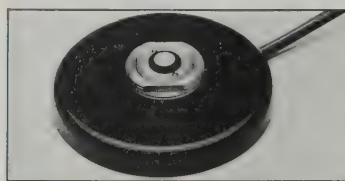
GAIN MOBILE ANTENNAS

QUARTERWAVE MOBILES



Model No.	Frequency MHz	Whip Length in	Whip Length m	Description
CS-270M	144-148/440-450	34	.86	Magnetic
CS-270A	144-148/440-450	34	.86	Coil & Whip
CS-147M	144-174	49	1.25	Magnetic
CS-147T	144-174	49	1.25	Trunk Lip
CS-147	144-174	49	1.25	3/4" Hole
CS-147A	144-174	49	1.25	Coil & Whip
CS-1147M	144-148	20	.5	Magnetic
CS-220M	222-225	33	.84	Magnetic
CS-220T	222-225	33	.84	Trunk Lip
CS-220	222-225	33	.84	3/4" Hole
CS-450M	435-470	29.5	.75	Magnetic
CS-450T	435-470	29.5	.75	Trunk Lip
CS-450	435-470	29.5	.75	3/4" Hole
CS-1450M	430-450	7	.17	Magnetic
CS-50M	46-54	49	1.25	Magnetic
CS-50T	46-54	49	1.25	Trunk Lip
CS-50	46-54	49	1.25	3/4" Hole
CS-28M	28-30	49	1.25	Magnetic

BLACK MAG MOUNT



TRUNK LIP MOUNT



UltraLink Cable™



UltraLink™ Cable

Cushcraft UltraLink cable was designed specifically for high efficiency commercial mobile applications to 900 MHz. UltraLink's RG-58 size allows easy installation through the tightest openings, while its Teflon® dielectric provides the highest temperature tolerance to handle vehicle hot-spots that would melt other dielectric materials. Additional 100% shielding is provided by a jacket of easy-peel foil. All this is covered by 97% braid for easy, secure connector attachment. More of your signal will get through with UltraLink than with any other mobile cable.

Ringo, Ranger and Four Poles

70 CM, 1 $\frac{1}{4}$, 2, 6, 10 METERS



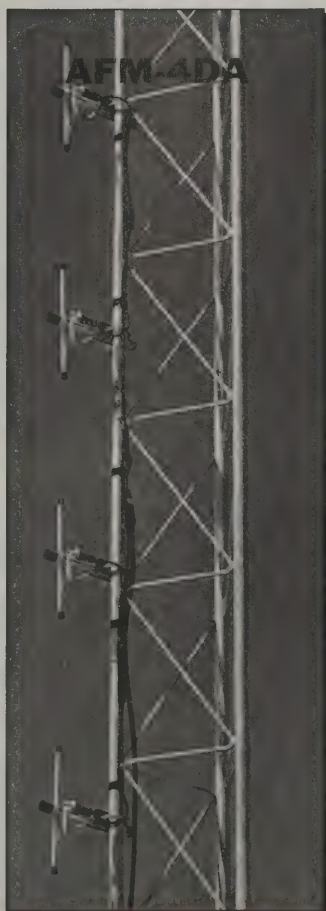
AR-10



AR-2



ARX-2



AFM-4DA

Ringo

These are the original W1BX FM Ringos. If you want a combination of compact size, wide bandwidth, a low radiation angle, these economical antennas are just for you. Since radials are not needed, you can even use our Ringos indoors.

Our Ringos are 1/2 wave and include built-in lightning protection. Put up one of these easily installed antennas and start enjoying FM!

MODEL	AR-2	AR-6	AR-10	AR-220	AR-450
Frequency, MHz	135-160	50-54	28-29.7	222-225	440-460
SWR 1.2:1 Typical					
2:1 Bandwidth, MHz	10	2	>1.5	10	20
Gain, dB	3.75	3.75	3.75	3.75	3.75
Power Rating, Watts FM	1000	1000	1000	500	500
Radiation Angle, Deg.	16	16	16	16	16
Horizontal Radiation					
Pattern, Degrees	360	360	360	360	360
Ring Diameter, in (cm)	5 (12.7)	13 (33)	13 (33)	5 (12.7)	3.5 (8.9)
Radiator Base Dia, in(cm)	.75 (1.9)	1 (2.5)	1 (2.5)	.75 (1.9)	.5 (1.3)
Height, ft, (m)	3.9 (1.2)	10.1 (3.1)	17.6 (5.36)	2.6 (.78)	1.4 (.43)
Mast Size Range, in (cm)	1-1.25 (2.54-3.1)	1-1.25 (2.54-3.1)	1-1.25 (2.54-3.1)	1-1.25 (2.54-3.1)	.75-.88 (1.9-2.22)
Wind Load, ft ² (m ²)	.21 (.02)	.37 (.03)	1.68 (.16)	.21 (.02)	.1 (.01)
Weight, lb (kg)	1.5 (.68)	2.5 (1.1)	4 (1.8)	1.2 (.55)	1 (.45)

ARX-2 Ringo Ranger

This is the antenna that combines good gain with compact size. If space does not allow extra height or decoupling radials, then the ARX-2 is for you.

Gain 5.5 dB, frequency range 135-160 MHz, SWR 2:1 bandwidth greater than 6 MHz, length 112" (2.8 m), wind area .33 ft² (.03m²), mast size range 1"-1.25" (2.54-3.1 cm), weight 4 lbs (1.8 kg), power handling 1000 Watts.

Four Pole Arrays

Cushcraft's four 1/2 wave dipole array is perfect for your repeater or as a powerful base antenna.

Strong through-the-boom dipole mounting ensures long life and superior electrical characteristics.

The dipoles mount to your tower's legs or on a separate support mast (not included). They can be arranged for omni or elliptical patterns.

MODEL	AFM-4DA	AFM-24DA	AFM-44DA
Frequency, MHz	144-148	222-225	435-450
Gain, dBd	9 Offset 6 Omni	9 Offset 6 Omni	9 Offset 6 Omni
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>4	>5	>15
Power Rating, Watts FM	500	500	250
Radiation Angle Degrees	6	6	6
Horizontal Radiation			
Pattern, Degrees	360-Variable	360-Variable	360-Variable
Height, ft (m)	23 (7.0)	15 (4.5)	8 (2.4)
Mast Size Range, in (cm)	1.5-2.0 (3.8-5.1)	1.5-2.0 (3.8-5.1)	1.25-2.0 (3.2-5.1)
Wind Load, ft ² (m ²)	2.54 (.24)	1.85 (.17)	1.13 (.11)
Weight, lb (kg)	7 (3.2)	6 (2.7)	5 (2.3)

70 CM, 2 METERS

Performance and Value Leaders

A148-10S and A148-3S are the newest computer optimized models of our 2 meter Yagis. We have improved both the pattern and gain of these antennas to give you better FM coverage. They have direct 50 Ohm Reddi-Match with SO239 connector and stainless steel hardware.

A148-3S is the low priced quality leader for Packet, FM or even portable use. It is easily rear mounted.

A148-10S is one of our best value designs with excellent gain and front-to-back ratio. Use it for long range FM or full band 2 meter operation.

For even higher gain the all new A148-20S is a complete antenna array with two ten element Yagis, stacking frame, harness and stainless steel hardware.

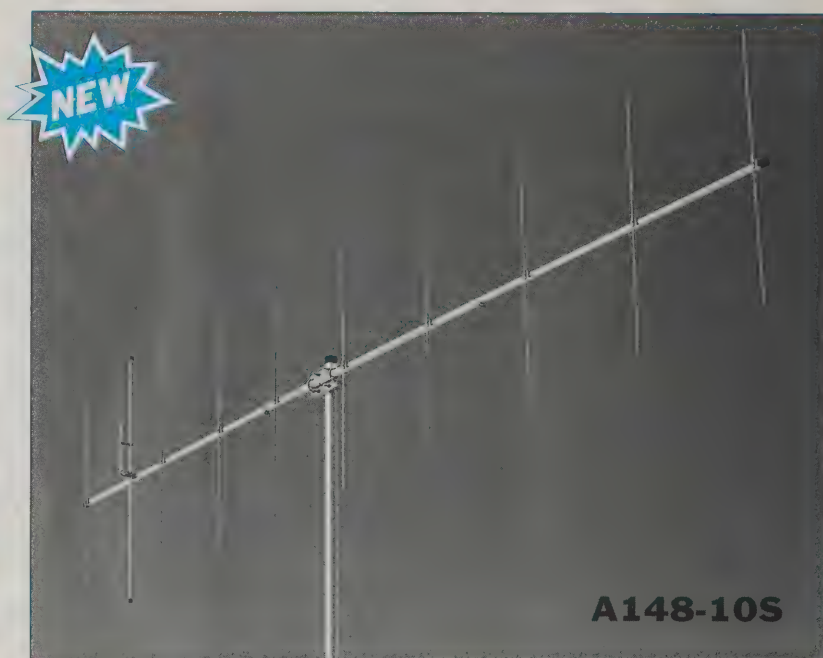
MODEL	A148-3S	A148-10S	A148-20S
Frequency, MHz	144-148	144-148	144-148
No. Elements	3	10	20
Forward Gain, dBd	7.8	13.2	16.2
Front to Back Ratio, dB	25	24	24
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>5	≥4	≥4
Power Rating, Watts PEP	1000	1000	1000
3dB Beamwidth, Degrees			
E Plane	66	40	20
H Plane	108	46	46
Boom Length, ft (meters)	2.8 (.85)	12(3.6)	12 (3.6)
Longest Element, in (cm)	41 (104.1)	40.3 (102.4)	40.3 (102.4)
Turning Radius, ft (m)	2.8 (.8)	6 (1.8)	6.6 (2.0)
Mast Size Range, in (cm)	1.25-2.0 (3.2-5.1)	1.25-2.0 (3.2-5.1)	1.25-2.0 (3.2-5.1)
Wind Load, ft ² (m ²)	0.27 (0.02)	1.21 (0.11)	2.82 (0.26)
Weight, lb (kg)	1.5 (0.7)	6 (2.7)	15 (6.8)

MODEL	A449-6S	A449-11S
Frequency, MHz	440-450	440-450
No. Elements	6	11
Forward Gain, dBd	10.5	13.2
Front to Back Ratio, dB	18	20
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>10	>10
Power Rating, Watts PEP	350	350
3dB Beamwidth, Degrees		
E Plane	60	48
Boom Length, ft (m)	2.9 (0.89)	4.2 (1.35)
Longest Element, in (cm)	13 (33)	13 (33)
Turning Radius, ft (m)	2.9 (.89)	2.8 (.85)
Mast Size Range, in (cm)	1.25-2.0 (3.2-5.1)	1.25-1.5 (3.2-3.8)
Wind Load, ft ² (m ²)	0.30 (0.03)	0.39 (0.04)
Weight, lb (kg)	3 (1.4)	4 (1.8)

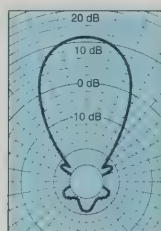
Stacking Kits

Our VPK stacking kits for the antennas above are supplied complete with mounting boom, harness, and hardware.

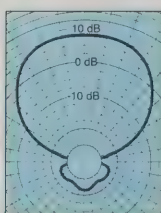
Antenna	Frequency MHz	Complete Kit	Harness Only
A148-3S	144.5-148	A14-VPKS	A14-SK
A148-10S	144.5-148	A148-VPKS	A148-SK
A449-6S	440-450		A449-SK
A449-11S	440-450	A449-VPKS	A449-SK



A148-10S



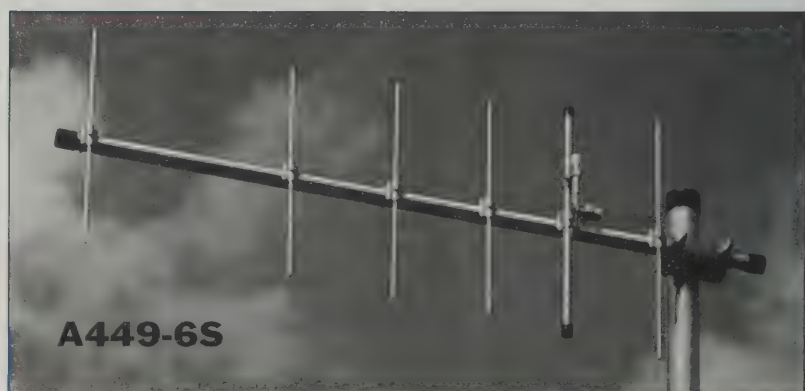
A148-10S



A148-3S



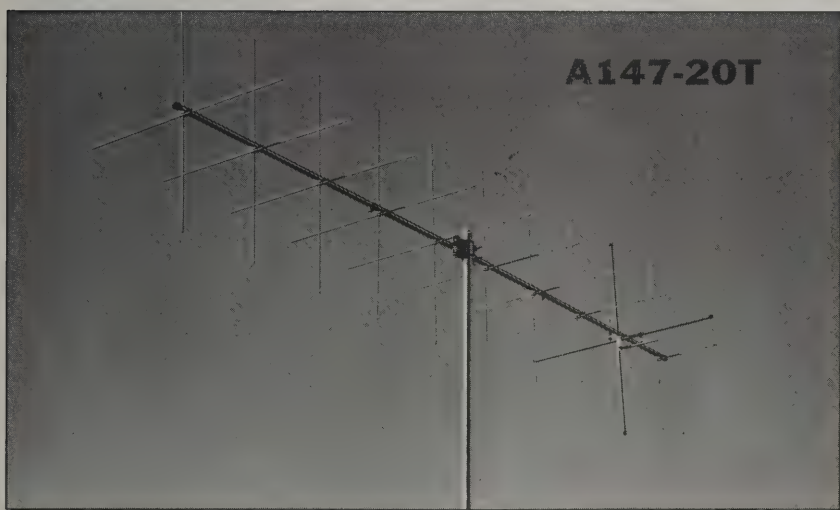
A148-3S



A449-6S

Specialized Antennas

70 CM, 2 METERS



COMMITTED TO INNOVATION

Innovation is the Cushcraft goal established by our founder, Les Cushman, W1BX. It is in this spirit that we have created many new and exciting products for amateur radio.

Our innovative designs include the first coaxial lightning arrester, Ringo Rangers, Squalo HF and VHF omni antennas plus the pioneering A147-11 and A147-22 VHF FM antennas. Using the newest technology we have produced Boomer and Skywalker computer design Yagis, the R3, R4, R5 and R7 vertical antennas, the all new ARX-270, CS-270M and the AP8A antennas.

The engineering hams and manufacturing staff at Cushcraft are committed to continual upgrading of existing designs. While many improvements do not qualify for new product status, they do enhance the value of products which we offer to you.



OSCAR

The Complete Antenna System

Here's the system that will get you up and running in a hurry. Cushcraft's AOP-1 includes our 416TB uplink, A144-20T downlink, A14-TMB mounting boom, and all of the hardware for quick assembly and installation.

True selectable left or right circular polarization (see our optional PS4 switcher below), and fine performance make the AOP-1 the right choice for your OSCAR contacts.

You can use our A14T-MB mounting kit for easy installation. Order as a complete system or buy individual components.

OSCAR operation will be more fun with the remote polarity switch mounted right on the 416TB. You will access satellites having either left or right hand circular polarization.

MODEL	A144-10T	A144-20T	416TB
Frequency, MHz	145.9	145.9	435
No. Elements	2 x 5	2 x 10	2 x 8
Forward Gain, dBd	10.5	12.2	12.5
Front to Back Ratio, dB	20	20	20
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>2	>2	20
Power Rating, Watts PEP	800	800	500
3dB Beamwidth, Degrees			
E Plane	52	38	34
Boom Length, ft (m)	5.83 (1.8)	10.83 (3.3)	6.7 (2.03)
Longest Element, in (cm)	40 (101.6)	40 (101.6)	13.3 (33.8)
Turning Radius, ft (m)	3.4 (1.04)	5.8 (1.78)	6.7 (2.04)
Mast Size Range, in (cm)	1.25-1.5 (3.2-3.8)	1.25-1.5 (3.2-3.8)	1.5-2.0 (3.8-5.1)
Wind Load, ft ² (m ²)	.74 (.07)	1.42 (.13)	.5 (.05)
Weight, lb (kg)	3.5 (1.6)	6.6 (3.0)	4.9 (2.2)

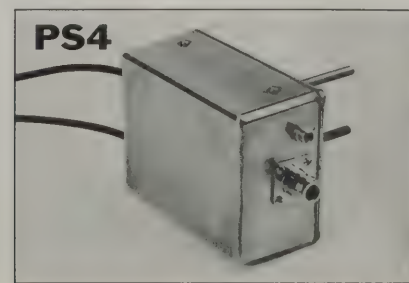
2 Meter Hi-Lo Cross Yagi

Here's the antenna that solves multi-mode problems! Ten vertically polarized and ten horizontally polarized elements provide 11.1 dBd gain in the 144-148 segment of the two meter band. The horizontal elements handle your CW and SSB needs, while the vertical elements cover FM.

The A147-20T has a boom length of 130 in. (3.3m), longest element length of 40 in. (1.0 m), wind area of 1.42 ft² (.13m²), and a mast size of 1.25-1.5 in. (3.2-3.8 cm)

PS4 Polarity Switcher

OSCAR uplink signals can be improved by matching the transmitted polarity of the satellite receiving polarity. Many hams like the option of remote switching 435 MHz polarity with the PS4. It mounts conveniently on the 416TB antenna, is weatherproof and requires 12 Volts DC for switching.



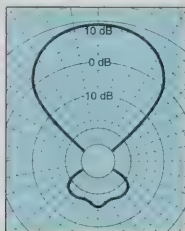
Sideband Yagis

70 CM, 2, 6 METERS

6 Meters

Computer-aided modeling and test range techniques were used by Cushcraft engineers to further optimize the performance of our popular 6 meter Yagis. This process means more gain and cleaner patterns with excellent front-to-back ratios. S-models have very broad bandwidth so they will not detune in bad weather. They feature stainless steel hardware for long trouble-free life. Enjoy the new popularity and exciting contacts on the 6 meter band with one of the S-series Cushcraft Yagis.

MODEL	A50-3S	A50-5S	A50-6S
Frequency, MHz	50-54	50-54	50-54
No. Elements	3	5	6
Forward Gain, dBd	8	10.5	11.6
Front to Back Ratio, dB	20	24	26
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>1	>1	>1
Power Rating, Watts PEP	1000	1000	1000
3dB Beamwidth, Degrees			
E Plane	76	56	48
Boom Length, ft (m)	6 (1.8)	12 (3.7)	20 (6.1)
Longest Element, in (cm)	117 (300)	123 (312)	119 (302)
Turning Radius, ft (m)	6 (1.8)	7.8 (2.37)	11.5 (3.5)
Mast Size Range, in (cm)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)
Wind Load, ft ² (m ²)	1.80 (0.17)	2.9 (0.273)	4.46 (.41)
Weight, lb (kg)	7 (3.2)	11 (5.0)	18 (8.2)



A50-6S
RADIATION
PATTERN



70 CM / 2 Meters

A148-10S is the latest generation of our incredible 2 meter Yagis. With its computer optimized design it has outstanding gain and pattern. This antenna is for SSB, CW, tropo or any mode. It has all stainless steel hardware and SO-239 connector. Assembly is quick with easy-to-follow instructions.

For 70 cm, the always popular A430-11S has been re-designed with all stainless steel hardware.

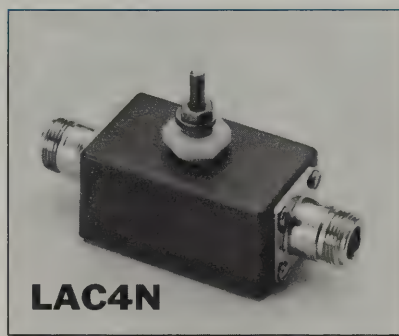
MODEL	A144-7S	A148-10S	A430-11S
Frequency	144-146	144-148	430-435
No. Elements	7	10	11
Forward Gain, dBd	11.1	13.2	13.2
Front to Back Ratio, dB	20	24	20
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>3	≥4	>10
Power Rating, Watts PEP	1000	1000	350
3dB Beamwidth, Degrees			
E Plane	46	40	38
H Plane		46	
Boom Length, ft (m)	8.2 (2.5)	12 (3.6)	4.7 (1.40)
Longest Element, in (cm)	40 (101.6)	40.3 (102.4)	14 (35.5)
Turning Radius, ft (m)	4.9 (1.5)	6 (1.8)	2.6 (.81)
Mast Size Range, in (cm)	1.5-2 (3.8-5.1)	1.25-2.0 (3.2-5.1)	1.25-1.5 (3.1-3.8)
Wind Load, ft ² (m ²)	0.81 (0.08)	1.21 (0.11)	0.42 (0.04)
Weight, lb (kg)	4 (1.8)	6 (2.7)	3 (1.4)



Antenna Accessories



LAC4H



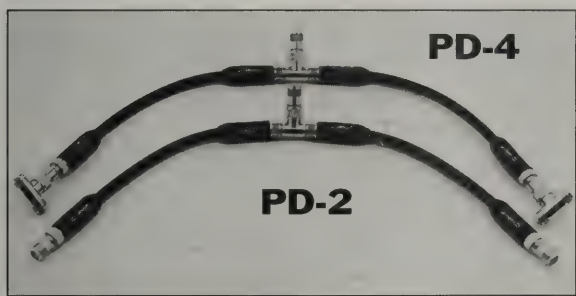
LAC4N



LAC-1



LAC-2



PD-4

PD-2

Fast Acting Gas Discharge Lightning Arresters

Protect your valuable equipment from surges of up to 5,000 amperes with a Cushcraft constant impedance LAC4 arrester! The LAC4 has a replaceable gas discharge tube which clamps voltage surges to less than 50 volts in about 100 nanoseconds—much quicker than the voltage rise time of lightning.

You cannot afford to be without lightning protection. One of the models below is right for your shack.

LAC4	200 Watt with UHF SO-239 connectors
LAC4H	2 kW with UHF SO-239 connectors
LAC4N	200 Watt with N connectors
LAC4NH	2 kW with N connectors
LC2	200 Watt replacement cartridge
LC2KW	2 kW replacement cartridge

Blitz Bug Lightning Arresters

Cushcraft also recommends this well-known series of arresters which are based on a patented three point static discharge design. The Blitz Bug has a sealed air chamber, constant static drain, and controlled voltage discharge.

The Blitz Bug is rated at 2 kw PEP to 500 MHz with negligible insertion loss.

LAC-1	with UHF PL-259 and SO-239 connectors
LAC-2	with UHF SO-239 connectors

Power Dividers For Boomers

Our power dividers make it a snap to stack Cushcraft Boomers. Models for 17B2 have N-connectors. They are available for these antennas:

PD-2	for two 13B2, 124WB
PD-2N	for two 17B2
PD-4	for four 13B2
PD-4N	for four 17B2
PD-222	for two 220B, 224WB or 225WB
PD-224	for four 220B, 224WB or 225WB

Stacking Harnesses For Boomers

For even easier installation of our Boomers, use our installation kits that are complete with harness and power divider. Models for 17B2 have N-connectors.

617-SK	for two 617-6B's
22-SK	for two 13B2's
22N-SK	for two 17B2's

Three products to extend antenna life and performance

PENETROX A – A special anti-oxidizing compound that is applied to mating pieces of antenna tubing, hardware, etc. before assembly to provide a low resistance, air-tight seal..... (4 oz tube) **\$7²⁰**

COAX SEAL™ – Hand moldable plastic tape. Wraps on like regular tape, but molds to any shape, seals tight and stays flexible for years to resist moisture penetration and connector deterioration. Non-toxic, non-contaminating, non-conductive. Roll, 1/2" wide x 60 ft.....**\$2⁴⁹**

STUF – A non-hardening dielectric waterproofing filler for coaxial connectors. Fill connectors and tighten—foam fills all voids where moisture can infiltrate and cause deterioration (tube) **\$4⁵⁰**

BOOMER STACKING INFORMATION

Antenna	2x617-6B	2x13B2	4x13B2	2x220B	4x220B	2x424B	4x424B	2x17B2	4x17B2
Forward Gain, dBd	17.0	18.8	21.8	19.8	22.4	20.8	23.4	21.0	24.0
Front/Back Ratio	30	24	24	30	30	30	30	24	24
E-Plane Beamwidth, deg	2x17.5	2x18	2x9	2x13	2x6.5	2x9.5	2x4.8	2x14.5	2x7.3
H-Plane Beamwidth, deg	2x10	2x9.5	2x9.5	2x7	2x5.5	2x5.5	-	2x7.5	2x7.5
Vert, ft	26	9.2	9.2	8	8	5	5	11.5	11.5
(m)	7.92	2.8	2.8	2.44	2.44	1.97	1.97	3.5	3.5
Horiz, ft	-	-	9.6	-	8.5	-	5.5	-	12
(m)	-	-	3.0	-	2.59	-	2.16	-	3.7
Approximate Wt, lb	62	22	44	23	76	15	55	32.5	115
(kg)	28.12	10.00	20.00	10.40	34.40	7.62	24.95	14.8	52.3

FREEDOM OF SPEECH

The IsoLoop 10-30 HF Freedom Antenna frees you from restricted areas.



The IsoLoop 10-30 HF Freedom Antenna frees you from antenna restrictions.

AEA's engineering team has put together the most efficient small loop antenna you'll find for HF performance. It's the technical answer needed to send and receive from your apartment, condo or anywhere zone restrictions apply.

The reason you get such big performance in a

small package is the efficiency of the IsoLoop 10-30: it's 72% on 20m, rising to 96% on 10m. Your IsoLoop delivers lower SWR and extended frequency coverage because the loop is isolated from the feedline. Your radiated power goes into the antenna, not into the shack.

Electrically, the large diameter main loop serves as an inductor and is tuned with a 10,000 volt variable capacitor to form a very high Q resonant circuit. That gives you the added benefit of suppressing both transmitted and received off-frequency signals. The capacitor itself is a heavy-duty, split stator design.

The 35" main loop is made of Iridited aluminum and is welded to the tuning capacitor to reduce loss. All welded connections and the custom capacitor further minimize losses. The very low impedance of the radiating loop (typically 0.06 ohm) is matched to 50 ohms using the technique of mutually coupled air core inductors—essentially lossless impedance matching.

Technically speaking, the IsoLoop 10-30 HF is the big value in small antennas.

To connect with the AEA dealer nearest you or for product sheets, call (800) 432-8873.



Connect with us

Advanced Electronic Applications, Inc.

P.O. Box C2160, 2006 196th St. SW, Lynnwood, WA 98036
Sales: (206) 774-5554

AEA IsoPole Omni-Directional VHF & UHF Base Station Antennas

For 144, 220 and 440 MHz. All IsoPole antennas yield the maximum gain attainable for their respective lengths and a zero degree radiation angle which puts most of the signal on the horizon. Exceptional decoupling results in simple tuning and a significant reduction in TVI potential. Broad frequency range - typical SWR is 1.4 to 1 or better across the entire band.

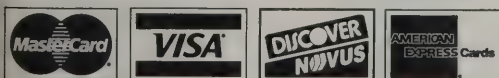
Model	IsoPole 144	IsoPole 220	IsoPole 440
Frequency:	135-160MHz	210-220MHz	415-465MHz
2:1 Bandwidth:	10 MHz	15 MHz	22 MHz
Power Rating:	1 KW	1 KW	1 KW
Length:	125.5"	79.25"	46"
Wind Area:	< 1ft ²	< 0.75 ft ²	< 0.2 ft ²
Connector:	SO-239	SO-239	Type N
PRICE	\$59.00	\$59.00	\$89.00

Hot Rods . . .

AEA Hot Rods • High performance 1/2-wave telescoping antennas for handhelds providing maximum gain and extended range. No ground plane required for efficient operation so they actually outperform longer 5/8's. They are 20% shorter and lighter which is more convenient, and places less stress on your HT. In the collapsed position, Hot Rods will perform like a helical quarter-wave. Handles over 25W, making them useful for portable base or mobile. BNC connector. Bands: 2m (HR-1), 220MHz (HR-2) or 440 MHz (HR-4).each \$24⁰⁰

SWR-121 Graphic Antenna Analyst

A compact and battery powered unit that measures, computes and presents a graphical display curve of SWR versus frequency on a high resolution LCD display. Totally self-contained; does not require an RF source for operation! Shows antenna performance over its operating spectrum, gives SWR and return loss at the center frequency. Covers 1 to 32MHz with an SWR range up to 65:1. All functions, frequency and display width adjustments are controlled via the front panel keypad. RS-232 interface for IBM PC-compatible computer for remote control, remote display, and saving of plots (optional PC software required). Power source: 8 AA alkalines (included) or 12-16V DC. 8" h x 4 1/4" w x 2 1/4" d, 1 lb, 10 oz \$349⁹⁵

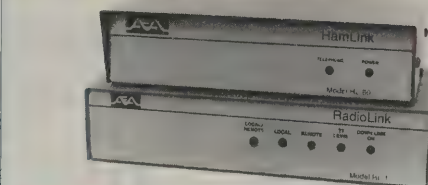


IsoLoop 10-30™ • Compact (35' diameter), omnidirectional HF antenna covering 10-30MHz continuous @ 150W. Can be mounted vertically or horizontally - no rotor, antenna tuner, ground plane, or ground radials required. Tunes to frequency by a variable 10kV tuning capacitor driven by a stepper motor, controlled from operating position. Special design produces high radiation efficiency while reducing TVI problems and attenuating out of band signals. The IsoLoop 10-30 is ideal for those with antenna restrictions. It's perfect for condos, apartments, attics, RV's. Comes fully assembled with power supply, manual controller unit, and 50 ft of shielded control cable. Mast not included. 30 lbs..... \$329⁹⁵

IT-1 IsoTuner

An automatic antenna tuner for the IsoLoop 10-30. Replaces the manual controller unit to provide quick, automatic tuning to any frequency from 10-30MHz. In automatic mode - if transmitting, the IsoTuner tunes for minimum SWR. If receiving, it tunes for maximum noise. Manual tuning also available via multi-speed thumb-wheel. 12-button keypad with audible beep - also announces completion of tuning and error conditions. 8 frequency (IsoLoop capacitor positions) memories. 10-segment LED bar monitors tuning process and indicates memory number. Numeric display indicates frequency and displays error codes. Memory back-up and serial computer interface. 12V DC. AC adapter and PC Utility software included. 4 1/8" h x 6 3/4" d x 5 1/2" w. 4 lb, 4 oz \$259⁹⁵

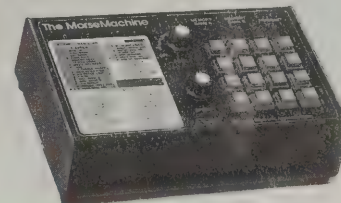
PC Packratt for Windows • The only data controller program for Windows on the market today. Works with the entire family of AEA data controllers. Supports AEA's dual port controllers. Run two AEA data controllers simultaneously, minimized or from the background. Clipboard logging. Perform binary file transfers with just the click of a button. Full control of screen colors and screen and printer fonts. Includes PK-FAX, b&w fax display program. Requires Windows 3.1..... \$129⁰⁰



RL-60 Radio Link • Control your HF rig via handheld radio. Easy plug-in interface to link radios and a base station. Change bands, frequency, and mode from any handheld or mobile radio that has Touch Tone. Works with Icom, Kenwood, and Yaesu radios with a computer port.\$299⁹⁵

ARE-60 HamLink Phone Controller • Control your HF rig via Touch Tone telephone. Check into your favorite net or call CQ from your office, or any other location.\$249⁹⁵

OP-80 OpLink Telephone Interface • An accessory for HamLink which allows user to connect a headset or headset/boom microphone to avoid using telephone for on-air use; also accepts CW key or keyer for fast CW \$119⁹⁵



MM-3 Morse Machine Keyer™ • The ultimate Morse Keyer/Trainer needed to up grade your license! **Keying modes:** Straight, Bug, Iambic and Curtis A&B. **Speed:** 2-99 WPM (variable) or 2-255 WPM (programmable). **Memory:** 20 soft partitioned, standard 8K expandable to 32K. **Five easy-to-use training modes:** Proficiency Training, Random Word Generator, QSO and DX Contest simulators. All commands can be entered via by keypad or computer via the MM-3's serial port. 9-16V DC. 2 1/2" d x 7 3/4" w x 4 1/2" d, 1.4 lbs \$179⁹⁵



PC Packratt II • Split-screen terminal program for operation on all digital and WEFAK modes. Works with IBM-compatibles and all AEA data controllers. On-screen help menus; Full QSO logging features; DOS gateway. Supports PACTOR. PK-FAX black and white fax display program. DOS 3.0 or higher is required \$64⁹⁵

COM Pakratt with FAX • Split terminal program for PK-232MBX and Commodore C64/128 operation. Includes both the COM Pakratt and COM FAX programs on ROM cartridge, and RS-232 to TTL interface \$74⁹⁵

MacRatt with FAX • Software for Apple Macintosh.....\$64⁹⁵

See Index for other AEA products

Order Toll Free: 1-800-558-0411

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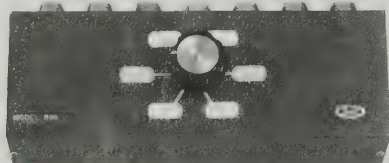
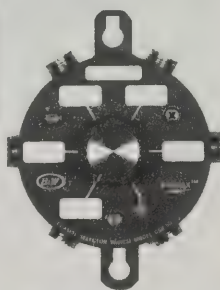
Coaxial Switches, etc.

• 52/75Ω • 2KW SSB • Negligible insertion loss • VSWR less than 1.2:1 up to 150 MHz • Crosstalk at 30 MHz -45 dB between adjacent outlets, -60dB between alternate outlets

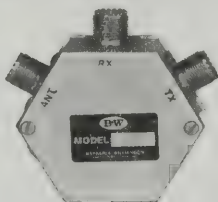


CS-36 • 3 position desk or wall mt., SO-239 connectors, grounding..... **\$39⁹⁵**

CSR-56 (right) • 5 position, side SO-239 connectors, wall mount, grounding..... **\$49⁹⁵**



CS-66 • 6-position, locates on operating desk or mounts to wall. SO-239 connectors, grounding..... **\$49⁹⁵**



CR-115 • Coaxial relay for switching antennas from transmit to receive, receiver terminal grounds when in transmit. Rated at 1KW CW, good to 150MHz. Requires 48 to 130V AC for control..... **\$42⁵⁰**

B & W LOW PASS FILTERS

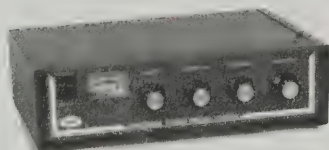


Eliminate Television and Radio interference due to HF (1.5-30 MHz) transmitter harmonic content. 100 or 1000W rating. Sharp cutoff, high attenuation of undesired harmonics with less than 0.3 db insertion loss.

FL-10/100 • 1.5-30 MHz, 100W, 52 Ω..... **CLOSEOUT \$32⁷⁵**

FL-10/1500 • 1.5-30 MHz, 1000W, 52Ω..... **41⁵⁰**

FL-10/1500/70 • 1.5-30 MHz, 100W 72Ω..... **CLOSEOUT 24⁹⁵**



B & W Antenna Tuner

VS-300A • Covers 1.8 to 30MHz, rated for 300W RF input. Matches coaxial cable, balanced line or single wire antenna. Built-in antenna switch selects one of two coaxial fed antennas, wire antenna or bypass. Internal 4:1 balun, and meter with 300W forward and 30W reflected scales..... **\$99⁹⁵**

Synthetic Textiles, Inc

Black DACRON® Double Braided Antenna Rope

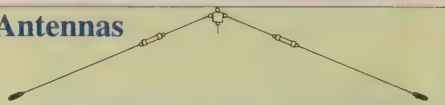
A better choice than regular galvanized guy wire that can eventually rust and have to be replaced. Dacron®/polyester does not weaken with mildew and provides excellent resistance to aging and abrasion Non-resonant. Cuts neatly with a hot knife and unties easily after years of use. Available in 3/32" and 3/16" diameter. with break strengths of 260+ and 770+ lbs, respectively. (Listed under GAP in Price list).

Order Toll Free – Use your Credit Card



Large Stocks mean Same Day Shipping!

Antennas

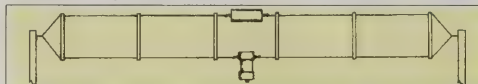


B&W AT-110 Preassembled 5-Band trap dipole • for 10, 15, 20, 40 & 80M, 2 KW PEP, 110 ft. long. Low VSWR on 80 and 40 meters; somewhat higher on 10 15 and 20 – typically 2:1 to 3:1. Wire length adjustments provided for tuning..... **\$84⁹⁵**

AT-110K • Kit version of AT-110 – #14 stranded copperweld wire, center connector, traps, end insulators..... **\$72⁹⁵**

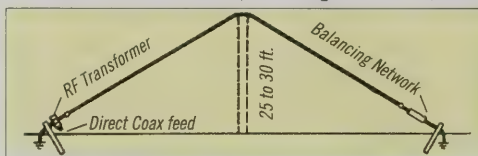
AT-55 Preassembled 4-Band trap dipole • for 10, 15, 20, 40M, rated at 2KW PEP, 55 ft. long..... **\$74⁹⁵**

AT-55K • Kit version of AT-55 – #14 copperweld wire, center connector, traps, end insulators and instructions..... **\$64⁹⁵**



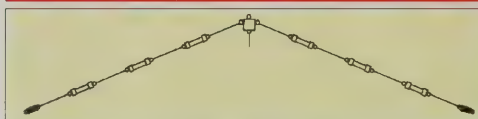
B&W AC 3.5-30 Broadband Folded Dipole • Preassembled and pretuned, with balun. Covers 3.5-30MHz continuous with VSWR <2:1, rated 2KW PEP, 90 ft. long. 50Ω input. Install as a horizontal flattop, inverted-V, or sloper for DX..... **\$179⁹⁵**

B&W BWD 1.8-30 • Same as AC 3.5-30 but covers 1.8-30MHz continuous. Rated at 2KW PEP, 90 ft. long..... **\$179⁹⁵**



B&W AC 1.8-30 Continuous Coverage End-fed "V" • Covers 1.8-30 MHz with VSWR <2:1, rated 2KW PEP. Requires only 80 ft. of horizontal space, or when space is limited, can be shortened further with only a slight loss of efficiency..... **\$179⁹⁵**

B & W Antennas for Limited Space



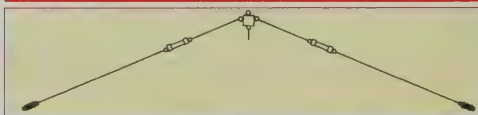
B&W AS-160 • 160/80/40/20 meter Dipole or V • At 137 ft. long, is only about half-the-length of a full-sized 160meter dipole, yet due to its design, it is an efficient radiator. It also gives excellent full-size performance on 80, 40 and 20 meters as well. Three sets of traps isolate a half-wave on each band. When using "no-tune-up" transceivers for 160M operation, an antenna tuner is recommended to provide a better match for greater power transfer and bandwidth. Direct feed for 52Ω coax with SO-239 connector. 500 watts PEP..... **\$139⁹⁵**

AS-80 • 80/40/20 meter Dipole or Inverted V • Similar in construction to the AS-160 above, except only two sets of traps. Where installation space is at a premium, this antenna can provide excellent coverage of 80 meters with a shortened overall length of only 78 ft. Operates with low SWR on all three bands. Rated at 500 watts PEP..... **\$109⁹⁵**

AS-40 • 40/20/25/10 meter Dipole or Inverted V • Two sets of traps, rated at 500W PEP. Overall length is 40 ft..... **\$139⁹⁵**

AS-20 • 20/15/10 meter Dipole or Inverted V • Two sets of traps rated at 500W PEP. Overall length is 23 ft..... **\$109⁹⁵**

B & W Antennas for Very Limited Space

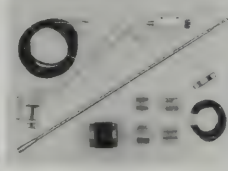


AXS-160 • 160/30 meter Dipole or Inverted V • One set of traps, rated at 500W PEP. Overall length is 96 ft..... **\$109⁹⁵**

AXS-80 • 80/40/15 meter Dipole or Inverted V • Two sets of traps, rated at 500W PEP. Overall length is 64 ft..... **\$109⁹⁵**

B & W AP-10 Portable antenna

Only 57" fully extended. Convenient for limited space in apartments, travel, etc. Simply change coils for 2, 6, 10, 15, 18, 20, 30, or 40 meters. Handles 300W PEP. Mounting bracket, all coils, 10 ft. of coax and counterpoise wire..... **\$69⁹⁵**



Antenna Supermarket



EAVESDROPPER™ Shortwave Antenna (right) • Utilizes 8 traps which provide reception of all Shortwave Bands, 11 to 90 meters. Includes Zap-Trapper® electronic gas-tube lightning arrestor and 50 ft. of support rope. Overall length is 42 ft. and comes fully assembled. When ordering, specify with 100 ft. of 72Ω twin lead or weatherproofed center connector with SO-239 for coaxial cable. (coax not supplied)..... **\$79⁹⁵**

SWL SLOPER Shortwave Antenna (left) • An end-fed coil loaded SWL antenna with underslung parallel element, designed to be mounted in a sloping configuration. Covers AM broadcast, 120 and 90 meters, and all Shortwave Broadcast bands, 75 through 13 meters. Overall length is 67 ft. and comes fully assembled. Includes Zap-Trapper® lightning arrestor, connector with SO-239, and 50 ft. nylon rope. **\$79⁹⁵**

NAVAL

Audio Booster Speaker



Model HTS-2 • Improves weak audio from your HT or Walkman, etc with 10dB audio amplifier and 3½" speaker. Battery saver circuit shuts off amplifier automatically if HT is squelched for more than 10 seconds; turns on the instant the channel becomes active. DC power jack and voltage regulator allows use of external 5 to 15VDC. Uses 4 (size AA) batteries, has built-in NiCad charger. Comes with 5 ft. audio cord with plug and stereo to mono converter. 2½" x 4½" x 2½", 1 lb. Silver/Grey color..... **\$29⁹⁵**

ICOM

AIRCRAFT HT & GPS Receiver



ICOM A-21 NAVICOM PLUS VHF Air Band HT (left)
Features: Single knob tuning, direct access tuning of all frequencies and memories. 760 channels, 10 WX and 20 memory channels. Programmed scan, memory scan and lock output. 5W (PEP) output. Instant 121.5MHz recall
NAV Features: 200 channels, VOR nav with CDI, displays radial heading to or from VOR station - instant position fix. Auto bearing set system corrects course deviation. Semi-duplex operation for combined VOR/COM operation. Large lighted keyboard. 2½" w x 7¼" h x 1½" d, 1.4 lbs..... **\$529⁹⁵**

ICOM GP-22 GPS Receiver (right) • Provides fast and accurate positioning worldwide! Also, instant destination navigation, route navigation, course and speed over ground, cross track error, ETA, bearing and range to a waypoint and more! Hams, use for determining repeater site coordinates and for other specialized communications work! Simple operation with a minimum of controls and large easy-to-read LCD. 2½" x 1¼" x 5¼", 3½ oz..... **\$699⁹⁵**

On Major items be sure to ask your Salesperson about any Specials, Coupons, Promotions, etc.

DIAMOND ANTENNAS –

THE STANDARD BY WHICH ALL OTHERS ARE JUDGED

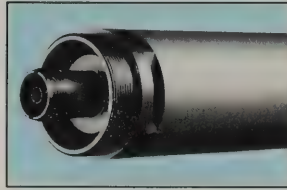
ACCLAIMED AS THE TECHNOLOGICAL LEADER IN SINGLE & MULTIBAND ANTENNAS

- WIDE-BAND PERFORMANCE ● FACTORY ADJUSTED/NO TUNING REQUIRED
- HIGHEST GAIN ● UPS SHIPPABLE ● HIGH WIND RATING ● FIBERGLASS RADOME
- DC GROUNDED ● STAINLESS HARDWARE

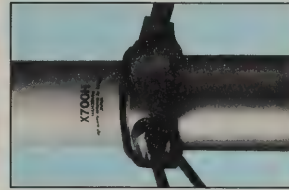
DIAMOND
ANTENNA

X-500HNA

**RUGGEDIZED BASE/
REPEATER ANTENNA**



COAX CONNECTION
AT BASE END



HEAVY DUTY BASE/
RADIAL ASSEMBLY



STRONG JOINT COUPLINGS

Xseries

MODEL	BAND(MHz)	GAIN(dBd.)	WATTS	CONN.	HT. Ft.	RATED WIND/ MPH
X-50A	144/440	4.5/7.2	200	UHF	5.6	135
X-200A	144/440	6.0/8.0	200	UHF	8.3	112
X-300A	144/440	6.5/9.0	200	UHF	10.2	112
X-510NA*	144/440	8.3/11.7	200	N	17.2	90
X-510MA	144/440	8.3/11.7	200	UHF	17.0	90
X-500HNA	144/440	8.3/11.7	200	N	17.8	90+
X-700HA	144/440	9.3/13.0	200	UHF	24.0	90
X-2200A	144/222	6.0/7.8	150	UHF	11.5	112
X-3200A	144/222/440	6.0/7.8/8.0	100/200	UHF	10.5	112
X-6000A	144/440/1240	6.5/9.0/10.0	100/100/60	N	10.5	112



147MHz



445MHz

RADIATION PATTERNS FOR
X-500HNA/X-510MA/X-510NA

BAND: 144=144 - 148MHz. 222=222 - 225MHz. 420=420 - 430MHz.
430=430 - 440MHz. 440=440 - 450MHz. 1240=1240 - 1300MHz.

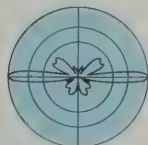
* X510NJ :144 - 147 / 430 - 440MHz

X510

GH/F/U&Vseries

MODEL	BAND(MHz)	GAIN(dBd.)	WATTS	CON N.	HT. Ft.	RATED WIND/ MPH
DP-GH62	50	6.0	200	UHF	21.0	78
F-22A	144	6.7	200	UHF	10.5	112
F-23A	144	7.8	200	UHF	15.0	90
F-142A	222	5.5	200	UHF	6.0	110
F-718A*	440	11.5	250	N	15.0	110
F-1230A	1240	13.5	100	N	10.5	90
U-200A	440/1240	8.3/11.7	100	N	5.9	135
U-300A	440/1240	8.6/13.2	100	N	8.3	110
U-5000A	144/440/1240	4.5/8.3/11.7	100	N	5.9	135
V-2000A	50/144/440	2.1/6.2/8.4	150	UHF	8.3	110

*F-718A:440 - 450MHz, F-718J:430 - 440MHz, F-718L:420 - 430MHz



U-300A 440MHz



F-22



U-300A 1200MHz

F22

U5000

GH62



RF PARTS

SAN MARCOS, CALIF
(619) 744-0900

DIAMOND'S STATE OF THE ART VHF / UHF MOBILE ANTENNAS - MAXIMUM PERFORMANCE WITHOUT COMPROMISE !!



SG series

CR series

NR series

SG7200NMO

SG7500

SG2000

SG7900

NR72BNMO

NR73BNMO

NR770R

NR770H

CR214S

CR320A

NEW!
IN BLACK

NEW!
IN BLACK

NEW!
IN BLACK

MODEL	BAND	GAIN(dBd)	POWER (w)	MOUNT	HT (IN)	ELEMENT PHASING
NR-72BNMO	2m/70cm	2.15	100	NMO	13.8	1/4 λ , 1/2 λ
NR-73BNMO	2m/70cm	2.15/5.3	100	NMO	33.5	1/2 λ , 2-5/8 λ
NR-770SA	2m/70cm	2.15/2.15	100	UHF	16.9	1/4 λ , 1/2 λ
NR-770HA	2m/70cm	3.0/5.5	200	UHF	40.2	1/2 λ , 2-5/8 λ
NR-770HNMO	2m/70cm	3.0/5.5	200	NMO	38.2	1/2 λ , 2-5/8 λ
NR-770RA	2m/70cm	3.0/5.5	200	UHF	38.6	1/2 λ , 2-5/8 λ
NR-790A	2m/70cm	4.5/7.2	120	UHF	57.5	6/8 λ , 3-5/8 λ
SG-7000	2m/70cm	2.15/3.8	100	UHF	18.5	1/4 λ , 6/8 λ
SG-7200NMO	2m/70cm	3.2/5.7	150	NMO	36.6	1/2 λ , 2-5/8 λ
SG-7500A	2m/70cm	3.5/6.0	150	UHF	40.6	1/2 λ , 2-5/8 λ

MODEL	BAND	GAIN(dBd)	POWER (w)	MOUNT	HT (IN)	ELEMENT PHASING
SG-7900	2m/70cm	5.0/7.6	150	UHF	62.2	7/8 λ , 3-5/8 λ
SG-2000	2m	5.2	150	UHF	62.6	7/8 λ
NR-140A	1-1/4m	3.8	100	UHF	36.2	5/8 λ
NR-124	23cm	8.4	100	N	25	4-5/8 λ
CR-214S	2m/1-1/4m	2.15/3.4	120	UHF	37	1/2 λ , 5/8 λ
CR-224A	2m/1-1/4m	5.0/6.0	150	UHF	68.5	7/8 λ , 2-5/8 λ
CR-320A	2m/1-1/4m/70cm	2.15/3.8/5.5	200/200/100	UHF	37.4	1/4 λ , 1/2 λ , 2-5/8 λ
NR-2000NA	2m/70cm/23cm	3.15/6.3/9.7	100	N	39	1/2 λ , 2-5/8 λ , 5-5/8 λ

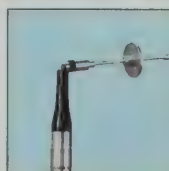
SPECIAL FEATURES

- Factory pre-tuned /no adjustment
- Highest Performance antennas
- SG&NR series do not need grounding
- NMO and UHF (PO) base styles
- New black color models available
- Fold-over feature on most models



FOLD-OVER

PATENTED ONE-TOUCH FOLD-OVER FEATURE



RF PARTS
SAN MARCOS, CALIF.
(619) 744-0900

PREMIUM GRADE ANTENNA MOUNTS BY DIAMOND

DESIGNED FOR TODAY'S HIGH PERFORMANCE ANTENNAS

DIAMOND
ANTENNA



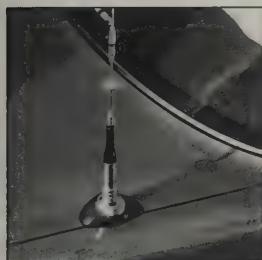
Super Gainer series folding type gutter mount

K300M(Coaxial cable :
RG188A/U·5DSFA-3.5m)
UHF jack - UHF plug
K300 Without cable assembly



Super Gainer series hatchback door/trunk lid mount

K400M(Coaxial cable:RG188A/U·5DSFA-5m)
UHF jack - UHF plug
K400 Without cable assembly
K400K-3/8M
3/8×24Thd with cable



Variable angle trunk lid mount

(Coaxial cable:RG188A/U·5DFV-5m)
K600M UHF jack - UHF plug
K600N N jack - N plug
K600P UHF jack - N plug



NNR series hatchback door/trunk lid mount

K200 Without cable assembly



Teflon coaxial cable for mobile FE5M(Coaxial cable:RG188A/U·5DFV-5m) UHF jack - UHF plug



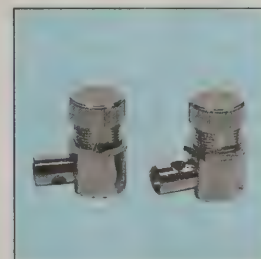
Strong magnet antenna base

DP-SPM / 58U(Coaxial cable :
RG58A/U-4m) UHF jack - UHF plug
DP-SPM / 5D(Coaxial cable :
5D2V-4m) UHF jack - UHF plug
DPK-5NM(Coaxial cable:
5D2V-4m) N jack - N plug
DPK-4NM-M(Coaxial cable:
3.5DQEFV-4m) UHF jack - N plug
Max.Ant.ht.48"



Super Gainer series folding type carrier/mirror mount

K540 Without cable assembly



DIAMOND ANTENNA BASES
GLP-5D UHF base connector 5D & 8X cable
GLP-58 UHF base for RG-58/U cable
GLP-5N N type base 5D & 8X

DUPLEXERS AND TRIPLEXERS FOR COMBINING AND SPLITTING VHF / UHF FREQUENCIES

- Lowest loss
- Maximum Band Isolation
- Low VSWR



MX-72D/DN



MX-72H/N



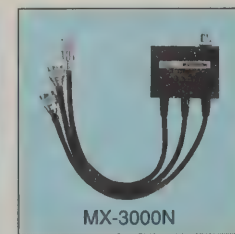
MX-214



MX-324



MX-3000D/DN



MX-3000N

MODEL	MX-37N	MX-72D	MX-72DN	MX-72H	MX-72N	MX-214	MX-324			MX-2000			MX-3000	MX-3000N	MX-3000D	MX-3000DN
FREQBAND MHz	1.6-470 900-1300	LPF		HPF		140-150 220-225	LPF	BPF	HPF	LPF	BPF	HPF	LPF	BPF		HPF
POWER CW WATTS P.E.P	100/50 200/100	400 1000	150 400	100 250	150/100 300/200	800 600 500	800	600	500	800	800	500	400 800	200 400	100 200	140-150 220-225
THRU LOSS/dB	0.25/0.45	0.15	0.15	0.25	0.3/0.4	0.3	0.4	0.4	0.15	0.2	0.25	0.2	0.3	0.4	0.4	0.4
ISOL	45dB	60dB		45dB		40-50dB	60dB			55dB			55dB			55dB
VSWR	1.2 : 1	1.2 : 1		1.2 : 1		1.2 : 1	1.2 : 1			1.2 : 1			1.2 : 1			1.2 : 1
CONNECTOR COMPLEMENT	(N) MIX 430 1200 (N) (N)	(M) MIX 144 430 (M) (M)	(M) MIX 144 430 (M) (N)	(M) MIX 144 430 (M) (M)	(M) MIX 144 430 (M) (N)	(M) MIX 144 220 (M) (M)	(M) MIX 144 220 430 (M) (M) (M)	(M) MIX 50 144 430 (M) (M) (M)			(M) MIX 144 430 1200 (M) (M) (M)	(N) MIX 144 430 1200 (M) (N) (N)	(N) MIX 144 430 1200 (M) (M) (N)	(N) MIX 144 430 1200 (M) (M) (N)	(N) MIX 144 430 1200 (M) (M) (N)	(N) MIX 144 430 1200 (M) (M) (N)
CONN	12" cable w/ connectors	Direct		12" cable w/connectors		12" cable w/connectors			12" cable w/connectors			12" cable w/ connectors			Direct connection	

Note: Connectors shown as "M" are low loss equivalent of SO-239 & PL-259.

Connectors shown as "N" are standard Type-N.

A99

10 meter Base Station Antenna

TWIN RING ADJUST-A-MATCH TUNING

The **A-99** is a half wave over a quarter wave variable mutual inductance tuned antenna for 10-17 meters.

It's **economical** and **easy to use!** – it features the **Solarcon Twin Ring "Adjust-A Match"** tuning which makes it possible to tune the input to the antenna and obtain the optimum SWR over a wide range of frequencies.

Simple! - raising the rings raises the frequency and lowering the rings lowers the resonant frequency.

A real beauty! – rugged three-piece white fiberglass construction with triple plated brass fittings. It's easy to assemble and install.

A-99 Specifications

Height 17 ft. 8 in.
Sections 3
Bands 10-17 meters
Gain 3 dBi
Power Limit 2000 Watts
Radiation Angle... <20 degrees
Grounding DC Grounded
Mounting 1-1/2" mast max.
Connector SO-239

\$59⁹⁵



MFJ Keyers



**MFJ-422B
Keyer-
Paddle
Combination**

Keyer unit installs on a Bencher Iambic Paddle. If you already own a Bencher paddle, buy *just* the keyer unit – if not, buy the Combo. Speed is 9-50 wpm, has adjustable weight and tone, dot-dash memories, sidetone. Semi-automatic/tune or automatic modes. Keys grid block, cathode or solid state. Requires a 9V battery or AC adapter. 4 1/2" x 2 1/2" x 5 1/2" d.

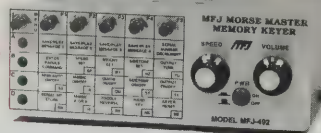
MFJ-422B Combo **\$124⁹⁵** • MFJ-422BX Keyer only **\$74⁹⁵**

**MFJ-407B
Deluxe Electronic
Keyer**



Uses the Curtis 8044 ABM IC chip. Dot-dash memories, self completing dots and dashes, jam-proof spacing. RF proof, instant start. Single squeeze, or straight key. Front panel controls include speed, weight, tone and volume, ON/OFF, tune, auto/semi auto. Rear switch selects A or B-type iambic keying. Built-in speaker. Requires 9V battery (not included) or optional MFJ 1305 110VAC adapter. 7" x 2" x 6" d. **\$64⁹⁵**

MFJ-401B Econo Electronic Keyer II • Similar to MFJ-407B described above, but with external speed and volume controls, internal weight and tune controls. Requires 9V battery (not included) or MFJ-1305 110VAC adapter. **\$49⁹⁵**



NEW! MFJ-492 Menu Driven Memory Keyer

No keypad, no complex sequences to remember— just follow the menu! From the menu you can save and play messages, decrement serial numbers, set speed, weight, sidetone, iambic, semi-auto, handkey, message queue, paddle command modes – turn on/off sidetone, transmitter tune, keying output on/off – select iambic A or B, reverse paddle, Morse trainer and store starting serial number. Commands can also be keyed from the paddle. Holds 192 characters in four soft sectored message memories, and is expandable to over 8K characters in eight memories; lithium battery back-up. Front panel control for speed (5-100 WPM) and volume. Built-in sidetone speaker, direct and grid block keying output. Requires 9V battery or optional MFJ-1312 110VAC adapter. 6 1/2" x 2 1/2" x 6 1/4" **\$89⁹⁵**

MFJ-493 • Like MFJ-492 but with 32K characters of memory. Has IBM keyboard input, QSO simulator also included **\$129⁹⁵**

MFJ-490 • Memory Keyer/Bencher Combo • Has all the features of the MFJ-492 except memory expansion **\$149⁹⁵**

MFJ-490X • Memory Keyer/Bencher Combo • MFJ-490 less the Bencher Paddle **\$99⁹⁵**

MFJ-451 • Morse Keyboard • Stand alone CW keyboard. 200 character type ahead buffer and two 100 character message Requires 12VDC or MFJ-1312B 110VAC adapter **\$84⁹⁵**



**MFJ-557
Deluxe Code
Practice Oscillator**

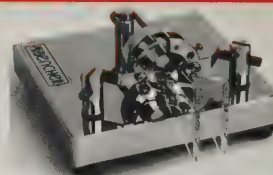
Features a code oscillator and Morse straight key mounted on a non-skid heavy base. Built-in speaker, adjustable tone and volume controls, earphone jack. Uses 9V battery (not included) or optional AC adapter. 8 1/2" x 2 1/4" x 3 3/4" **\$24⁹⁵**

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- Late Breaking "Hot Deals"
- Latest Sale Prices
- Monthly specials
- Coupons, etc.

Info also available on the AES[®] BBS
1-414-358-3472

BENCHER Paddles



**High
Quality
IAMBIC
&
SINGLE
LEVER**

Full range adjustment of tension and contact spacing, self adjusting nylon and steel bearings. Heavy gold plated solid silver contact points and polished lucite paddles. Precision machined chrome plated brass frame and heavy steel base with non-skid feet. Available with bases in black painted and textured, chrome or gold plated.

Iambic:

BY-1 • black base.. **\$69⁹⁵**
BY-2 • chrome base. **84⁹⁵**
BY-3 • gold base.... **219⁹⁵**

Single Paddle:

ST-1 • black base... **\$69⁹⁵**
ST-2 • chrome base.. **84⁹⁵**
ST-3 • gold base **219⁹⁵**

NYE VIKING Keys



NYE VIKING 330-001 Master Key (right) • For the expert, but perfect for the beginner! Isolated contact assembly keeps keying circuit separate from all parts. Heavy die-cast body, no need to secure to table for stability. Gold plated silver contacts, adjustable action key arm, Navy-type knob, 3 ft. cord with phone plug, black plated finish **\$59⁹⁵**

NYE VIKING SSK-001 Super Squeeze Key (left) • Use with an electronic keyer for fast comfortable electronic keying action. Gold-plated silver contacts, nickel-plated brass hardware, heavy base with non-skid feet **\$49⁹⁵**



NYE VIKING Speed-X Code Keys • Six standard models (right), four Heavy Duty models (left) – all with gold-plated heavy silver contacts, adjustable key action and heavy die-cast bases. With and without switches, brass or nickel plated hardware, standard or Navy-type knobs. Optional matching heavy steel base plate with non-skid feet.

See NYE VIKING in the Price List

VIBROPLEX Keys



VIBROPLEX Original "Bug" • Press the thumb piece to the right and the vibrating bar produces one, or a string of dots – automatically. Dashes are made to the left, manually. A sliding weight adjusts the speed for 20 wpm or less. Silver contacts, non skid feet. **Standard model** has painted base and chrome top parts, **Deluxe model** has polished chrome base and top parts and jewel movements.

Standard (#110) – \$99⁰⁰ • **Deluxe (#105) – \$120⁰⁰**

VIBROPLEX Original Presentation • Finest quality semi-automatic key. Real jewel movements and widest speed range from less than 20 to 55 wpm+. Bright chrome parts mounted on a 24-carat gold base plate. (#100) **\$195⁰⁰**

VIBROPLEX Vibrokeys • Single lever paddle initiates the automatic dots and dashes of an electronic keyer. **Iambic model** allows utilization of automatic dot/dash insertion and other unique keyer features See Price List

VIBROPLEX BRASS RACER IAMBIC • Solid brass iambic paddle on a polished hardwood base (#145) **\$65⁰⁰**

VIBROPLEX EK-1 • Solid brass iambic paddle with an 8044 electronic keyer built into the hardwood base. Iambic, dot/dash insertion, adjustable speed (#140) **\$145⁰⁰**

GAP Antenna Products

Antennas for Limited Space • NO TRAPS • All out Efficiency & Performance • GAP gets it all out!

GAP

ANTENNA PRODUCTS™

Featuring . . .

Center Launch Technology

NO
Traps, Coils
Transformers,
Baluns,
Resistors or
Base
Insulators
All
Factory
Pretuned!

For 50 years . . . the vertical has not changed—basically it's a vertical wire, fed at the base and surrounded by a number of ground radial wires. To operate multi-band, traps were placed at appropriate points to electrically shorten the antenna to a 1/4-wave on the various bands. The *big signals* on the band did not come from these verticals, and DX contacts, even with the vertical's well known low angle radiation, did not happen consistently. The vertical is used by those hams with minimal space, finances or with local restrictions. If a new amateur asked what to put up for an antenna, he was told, "put up a dipole". *Why?*—a conventional vertical, because of it's low radiation resistance and high earth losses (even with an extensive radial system), is the *most inefficient* antenna available for amateur use, and a trapped multi-band version is worse.

Did you know? . . . a 26 ft. vertical on 80 meters should be 66 ft. high! The *missing* 40 ft. is replaced by traps. This *short* antenna has a radiation resistance of only 4Ω—it's a virtual resistor, which when power is applied to it, radiates R.F. Unfortunately that isn't the only resistor in the antenna system, there are more! The most significant resistor is called *earth loss*, which results from radials and the ground itself. If three radials are used, the earth loss created is more than 30Ω. We now have a antenna with 4Ω that radiates and 30Ω that warms the ground—a total of 34Ω. If only 4Ω radiates, this means that if 100 watts are fed to this antenna, *only 12 watts* actually radiates. Inserting lossy traps adds 2Ω, and the power drops from 12 watts to 11 watts radiated. Traps don't matter much—it's the huge earth loss matters.

Put out a lot of radials? . . . If you were lucky and found 4000 ft. of wire (for 60 radials), and the room to bury them, the earth loss would drop from 30 to 4Ω. All that effort, and the radiated power for 100 watts fed, is still only 50 watts—*half is still warming the ground!* Worse than that, you now destroy the multi-band operation because a multi-band vertical must have earth loss to work! That's why a roof-mounted multi-band vertical won't perform well on all bands. It was obvious that a new vertical design was needed with the primary objective to increase the radiation resistance and decrease or eliminate earth losses.

Enter the GAP antenna, a radically different vertical! . . . Technically, earth loss results from the capacitance of the antenna to ground from above the feed point. This is why you won't find much earth loss with dipoles—because they are elevated. The GAP design *elevates* the feed point to increase the radiation resistance closer to 50Ω, resulting in a better match to the feedline, and virtually eliminating earth losses. Comparing a conventional vertical's feed point at ground level vs the GAP feed at 16 ft. (Challenger) shows a reduction in loss from over 30Ω to 5Ω. So, the GAP design, with an antenna resistance of 50Ω and an earth loss of 5Ω, is not a very lossy antenna—it's efficiency is approximately **90%**. When compared to the low 12% efficiency of a conventional vertical, the improvement is a dramatic **600%**

NO TRAPS in the GAP! . . . Operating as a vertical dipole with no traps, an elevated feed-point and unique tuner rods enables the GAP to be more reliable. It has wider bandwidth and better frequency stability which results in less tuning and retuning.

Voyager DX-IV

• **Bands:** 160, 80, 40 and 20 meters • **Bandwidth:** Entire band on 80, 40 & 20 meters, 90 kHz on 160 meters • **Power Rating:** Legal limit • **Feedline:** 50Ω (coax) • **Height:** 45 ft. • **Construction:** 2" diameter 6063-T832 aluminum, and all stainless hardware • **Mounting:** Aluminum pivot and guy brackets supplied • **Wind Area:** 7 sq. ft., requires 2 sets of guy ropes total 350 ft. • **Radials:** 3, each 57 ft. long • **Area Required:** 25 ft. x 25 ft. for guys and radials.

Challenger DX-VIII

• **Bands:** 80, 40, 20, 15, 12, 10, 6 and 2 meters • **Bandwidth:** Entire band on 40, 20, 15 and 12 meters, 130 kHz on 80 meters and 1 MHz on 10 meters (No Traps) • **Power Rating:** Legal Limit • **Feedline:** 50Ω (coax) • **Height:** 31.5 ft. • **Weight:** 18 lbs • **Construction:** Aluminum tubing 6063-T832, and high temperature coaxial cable, stainless steel hardware. **Mounting:** Self-standing ground mount • **Radials:** 3, each 25 ft. long • **Area Required:** 10 ft. x 12 ft.

Eagle DX-VI

• **Bands:** 40, 20, 17, 15, 12, 10 meters • All out efficiency—all out performance! No coils, resistors, ground plane or earth loss. **Bandwidth:** VSWR under 2:1 on all bands with full bandwidth on 40 and 10 meters; can be custom tuned for your favorite part of the band. • **Height:** 21.5 ft. • **Weight:** 11 lbs • **Mounting:** Supplied with mount for pole, mast, tower, or ground mount, **Radials:** 3 rigid counterpoises, each only 8 ft. long.

GAP not available at AES® Wickliffe.

**Voyager
DX-IV**
4 Bands
\$399⁰⁰

**Challenger
DX-VIII**
8 Bands
\$259⁰⁰

**Eagle
DX-VI**
6 Bands
\$269⁰⁰

For Antenna Performance • The Answer is GAP Technology!

Model G7-144 Two Meter Antenna

7 dB GAIN
-- compared to 1/2-wave dipole

ELECTRICAL

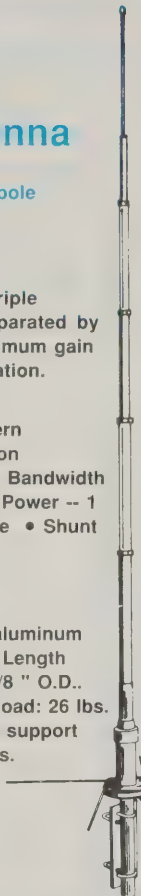
Radiator: Collinear shunt-fed. Triple 5/8-wave elements in series, separated by 2 phasing coils to produce maximum gain and extremely low angle of radiation.

7 dB gain over 1/2-wave dipole

- Omnidirectional radiation pattern
- Extremely low angle of radiation
- Tuning range: 144-148 MHz • Bandwidth for 2:1 or better VSWR: 6 MHz • Power -- 1 KW FM • 50 ohm feed impedance • Shunt fed with DC grounding

MECHANICAL

- High strength fiberglass and aluminum
- Completely self-supporting • Length 184" • Radials: (4) 1/4-wave x 3/8" O.D.. rod • Connector: N-type • Wind load: 26 lbs. @ 100 mph • Mounting: Vertical support up to 1-3/4" O.D. • Weight: 10 lbs.



Model G6-270 Dual-band Base Antenna for 2m and 440MHz

Created from the same design as the G7 and G6 series. Rugged Design, Solid Gain and Wide Bandwidth. Consists of 5/8λ over 5/8λ on 2m & 4 x 5/8λ on 440 MHz.

Length..... 7 ft. 6 in.

Weight..... 5.3 lbs.

Wind Survival. 100 mph

Mounting. 1/4"-1/2" mast

Max Power 200 watts

Gain ...6dBd VHF & UHF

Bandwidth .2 MHz* (2m)

10 MHz* (440)

Feed ..Shunt, DC ground

Connector N female

*Bandwidth under 1.5:1

VSWR

Model G7-220 220 MHz

The 7 dB omnidirectional gain (compared to a 1/2-wave dipole) of this rugged antenna means exceptional 220 MHz (1-1/4 meter) amateur performance, receiving and transmitting. A unique new design keeps the signal pattern at the lowest possible angle for maximum radiation efficiency.

7 dB GAIN
-- compared to 1/2-wave dipole

SPECIFICATIONS

- Length: 122" long • Power capability: one kilowatt FM • SWR at resonance: 1.2:1 at antenna • Bandwidth: 5 Mhz for 1.5:1 SWR • Impedance: 50 ohms • Radials: four, 14-3/4 x 3/16" O.D. • Connector: Type N • Wind load: 26 lbs. at 100 mph • Mounting vertical support up to 1-3/4" O.D. • Shipping weight: 7.0 lbs.



*Reliability & Performance...
Beyond Your Expectations!*

Model G6-440 Omnidirectional Fixed Station

- Each is pre-tuned at the factory for easy installation • Enclosed in a lightweight tapered fiberglass radome for low wind resistance • Compact size allows shipment via U.P.S. or Parcel Post

ELECTRICAL

- Maximum power input: 250 watts
- Gain: 6 dB • VSWR 8 MHz under 1.5:1 • Impedance: 50 ohm nominal
- Lightning protection: direct ground
- Termination: Type N female

MECHANICAL

- Length: 87" • Weight: 16 lbs
- Wind survival: 125 mph • Mounting: up to 2" mast



Model G6-144-B

6 dB GAIN
-- compared to 1/2-wave dipole

Get the tremendous advantage of 6 dB gain transmitting, 6 dB gain receiving. Whether your application is for individual fixed station or repeater operation the Hustler G6-144-B has superior mechanical and electrical design. Optimum gain is achieved with two 5/8 wavelength radiators correctly phased in collinear configuration. Stated gain figure is conservative and maximum signal radiation is at an extremely low angle

ELECTRICAL

- 6 dB gain over 1/2-wave dipole
- Ominidirectional radiation pattern
- Maximum radiation -- extremely low angle • 50 ohm feed impedance • Field adjustable-- 140-150 Mhz • SWR at resonance-- 1.2:1 measured at antenna • Bandwidth -- One kilowatt FM • Feed -- Shunt with D.C. grounding • Radiator -- 5/8-wave lower section, 1/4 wave phasing, 5/8-wave upper section

MECHANICAL

- Vertical element -- 117" long, 1-1/8" telescopic to 3/8" OD high strength aluminum • Connector -- SO-239 • Wind load -- 26lbs. at 100 mph • Wind survival --100 mph • Completely self - supporting
- Mounting -- vertical support up to 1-3/4" OD • Shipping wt. : 6.8 lbs.



FX Series

3/4 dB gain; 5/8-wave, 200 watt rating
15 foot coax PL-259 connector installed
Magnetic mount holds to 100 mph

Model FX-2-
2 meter, black and chrome
Model FX220-
220 MHz, black and chrome
Also available in black
Model FX-220B, 220 MHz



RX Series

- 3.4 dB Gain; 5/8-wave • 100 watt rating
- 15 foot coax PL-259 connector installed
- Magnetic mount holds to 75 mph

Model RX-2-
2 meter black and chrome
Model RX-220-
220 MHz, black and chrome



Model BBLT-144A

3.4 dB Gain Trunk-Lip Mount Antenna
Adjustable 143-149 MHz
3.4 dB gain • SWR: 1.1:1 at resonance • Power rating: 200 watts FM • Shunt-fed - reduced static • Length: 4'4" inc. mt. • Spring and 180° swivel ball for vertical positioning • 17' coax and connector • No drilling required • Weight: 2.76 lbs.

Model RX-440

UHF Magnetic Mount
• 5/8 over 1/4 wave design
• 5 dB gain
• Speed rated to 75 mph
• Includes 12' coax

Model SF-220

Low Cost 3.4 dB Gain 220 MHz 5/8-wave for 3/8" x 24 thread mounts
• 1.2:1 SWR at resonance • Power rating: 100 watts FM • Tapered stainless steel • 3/8" x 24 thread mount • Length: 2'7" • Wt.: 0.87 lbs.

Model SF-2

Low Cost 3.4 dB Gain 2 meter 5/8-wave for 3/8" x 24 thread mt.
• 3.4 dB gain • 1.2:1 SWR at resonance • Power rating: 100 watts FM
• Tapered stainless radiator
• 3/8" x 24 thread mount
• Length: 4' • Wt.: 0.5 lbs.

Model BBL-144A

3.4 dB Gain Roof Mount Antenna
Same as BBLT-144A but mounts in 3/4" hole on a flat surface. 17' coax with connectors.

Collinear

Model CGT-220

5.2 dB Gain 5/8 Over 1/4-Wave Collinear Trunk-Lip Mount Antenna
Super gain: 5.2 dB • 1.1:1 SWR (typical) at resonance • 4 MHz band width, 1.5:1 or better SWR • Power rating: 200 watts FM • Height: 4' 9" including mount • Spin knob to remove antenna
Furnished with 17' of low loss coax and connector

Model CG-220

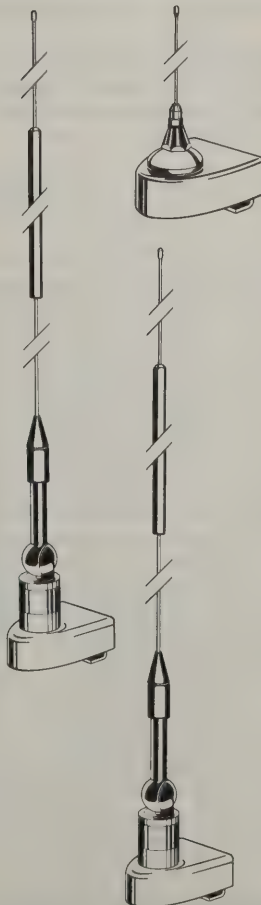
Has identical electrical characteristics as CGT-220 but with 3/8 x 24 threaded base for use with standard mast mounts or other 3/8" x 24 Hustler mounts.

Model CGT-144

5.2 dB Gain Over 1/4-Wave Collinear Trunk-Lip Mount Antenna
Super gain 5.2 dB • 6 MHz band-width, 15:1 SWR • Power rating: 200 watts FM
Length: 7' 1" including mount • Spring and 180° swivel ball for vertical positioning • 17' coax and connector • No drilling required
Wt.: 3.34 lbs.

Model CG-144

Same as CGT-144 but has 3/8"x24 threaded base for use with standard mast mounts or other 3/8"x24 Hustler mounts.



Unity Gain

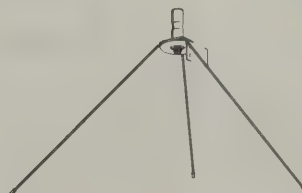
Model THF

VHF/UHF Trunk-Lip Mount Antenna
Trimable 17-7 PH stainless steel radiator is cut to 1/4 wavelength for low SWR and unity gain from 140 to 500 MHz. Trim chart included. Easy to install trunk-lip mount attaches to rear or side of trunk lid without drilling. Supplied ready for operation with 17' of coax with connectors installed. 1.5 lbs.



Model UGM

VHF/UHF Magnetic Mount Antenna
Extend range of handheld or portable radios. Trimmable 17-7 PH stainless steel radiator is cut to 1/4 wavelength for low SWR and unity gain from 140 to 500MHz. Trim chart included. Highly efficient mylar-protected magnetic mount attaches conveniently to magnetic compatible surfaces. No drilling! Supplied ready for operation with 7' of mini-coax with BNC connector and trim chart. 1 lb.



Model UHT-1

VHF/UHF Roof/Deck Mount Antenna
Low profile mount designed for easy installation in a 3/4" hole on any flat surface or on roof without pulling headliner. Unity gain, 1/4-wave performance. Trimmable 17-7 PH stainless steel radiator permits operation on any frequency from 140 to 500 MHz. Trim chart, 15' of coax and connector included, 1.2 lbs.



Model MKR-2 Radial Kit

Contains three decoupling radials and mount to convert series-fed mobile VHF antennas to fixed operation. Performance is comparable to many regular base antennas. Suitable for permanent installations or portable use. Heavy-duty zinc plated mast bracket and hardware. Accepts antennas with standard 3/8 x 24 threaded base. 2 lbs.

Deluxe Mobile Mounts

For antennas up to 60" in length with 3/8" x 24 threads

Model RXM Magnet Mount

- Accepts 3/8 x 24 thread antennas
- Speed rated to 75 mph
- For use with antennas up to 49" long

Model FXM Heavy Duty Magnetic Mount

- Accepts 3/8" x 24 thread antennas
- Speed rated to 100 mph
- For use with antennas up to 55" long

Model HOT "HUSTLOFF" Trunk-Lip

Mounts without holes or drilling. For security just turn knob to remove antenna and mount from trunk-lid. Not removable when trunk closed. 180° swivel mount with 3/8" x 24 threads, 17' coax with connectors attached. 1.9 lbs.

Model HLM Deluxe Trunk-Lip Mount

Designed specifically for hatch and slanted-back vehicles. No holes or drilling. 180° adjustable swivel with 3/8" x 24 threads. 17' coax with connectors attached. 1.7 lbs.

Model TLM Trunk-Lip Mount

Installs on side of edge or trunk-lid without holes or drilling. Vertical mount with 3/8" x 24 threads. 17' coax with connectors attached. 1.86 lbs.

Model GCM-1 Rain Gutter Mount

Deluxe heavy - gauge triple chrome plated brass. Installs without holes or drilling on all sizes and any angle rain gutter. 180° adjustable swivel with 3/8 x 24 threads. 0.8 lbs.

Model MM-1 Cowl Mount

Low profile, installs on any flat surface, or angle, in a 1" hole. 180° split-ball swivel for optimum vertical positioning, 3/8" x 24 threads. 1.9 lbs.

Model MM-3 Cowl Mount

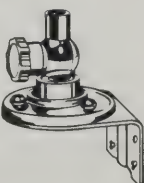
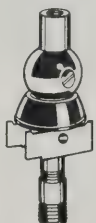
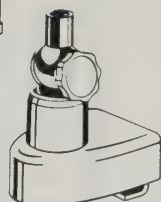
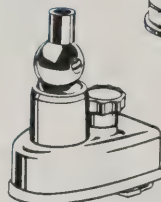
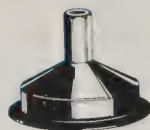
Installs on any flat surface, or angle, in a 1" hole. 180° swivel for optimum vertical position. 3/8" x 24 threads, 5' coax with connectors attached. 1.3 lbs.

Model TGM-1 Trunk Groove Mount

Installs in a hidden area of trunk groove 180° adjustable swivel, 3/8 x 24 threads. 0.74 lbs.

Model RVM Recreational Vehicle Mount

Heavy duty design for vertical side panel or roof mounting. Knob for rapid removal or lay-down. Optimum vertical positioning with 180° swivel, 3/8" x 24 threads, 17' coax, including connectors, grommet, and hardware. 1.9 lbs.



Standard Commercial Stainless Steel

Model SSM-1

Standard commercial ball mount and stainless steel spring. Shipping weight: 2.53 lbs.



Model SSM-2

Ball mount only. Shipping weight: 1.3 lbs.



Model SSM-3

Stainless steel spring including 3/8"-24 coupling stud. Shipping weight 1.21 lbs.



Professional Series - Heavy Chrome

Model C-32

Hustler professional ball mount. Furnished complete with rubber pad, steel backup plate, all mounting hardware, and hex wrench. Shipping weight: .48 lbs.

Model C-29

Stainless steel, corrosion resistant and electropolished spring complete with 3/8"-24 coupling stud. Shipping weight 2.70 lbs.

Model C-30

Chrome-plated steel spring complete with 3/8"-24 coupling stud. Shipping weight: 1.2 lbs.

Bumper Mount

BM-1

Design is rugged for supporting Hustler antenna with standard or super resonators. Heavy stainless steel strap, stronger than chain, fits most bumpers inconspicuously. Assembly is easily installed and held rigid by "J" bolts at the top and bumper strap clamp at bottom.

Mount includes 180° adjustable swivel ball for vertical positioning of antenna. Hardware is zinc plated for superior resistance against corrosion. Shipping weight 2.70 lbs.



Quick Disconnect QD-2

100% Stainless Steel

Remove antenna from mount in seconds with push and twist release. Every part including the compression spring is manufactured from the best available 100% stainless steel. Special design of enclosed compression and lock assembly assures freedom against ice and dirt jam up. Accommodates small, medium and largest size mobile antennas. Equipped with 3/8"-24 threads, female one end and male on the other. Shipping weight .40 lbs.



Coax Leads

LU-216

216" top-quality RG-58 coaxial cable with PL-259 connectors on both ends. Shipping weight 0.76 lbs.

L-14-144

144" top-quality RG-58 coaxial cable with PL-259 connector on one end and split end with lugs on the other. Shipping weight 0.51 lbs.

L-14-240

Same as L-14-144 except 240" coaxial cable. Shipping weight 0.71 lbs.

Multi-band Adapter

Model VP-1

- Automatic bandswitching using any three Hustler H.F. mobile resonators.
- Adapts any Hustler H.F. mast (MO-1, MO-2, MO-3) to tri-band operation easily and quickly.



Resonator Spring RSS-2

Finest quality stainless steel spring for use between resonator and Hustler antenna mast. This 3/4" x 3-1/2" spring absorbs shock when antenna strikes overhanging obstructions. Supplied ready for easy installation with 3/8"-24 threads, female on one end, male on the other. Shipping weight .36 lbs.



- Broadbanded - low VSWR at band edges
- Power capability - full legal limit on SSB or CW
- Solid one-inch fiberglass trap forms for optimum electrical and mechanical stability
- Heavy wall, high strength aluminum tubing, heavy duty aluminum mounting bracket and low loss, high strength insulators
- Stainless steel clamps and hardware
- Easy assembly and tuning
- Single line feed with any length of 50 ohm coax
- Use as ground mount with or without radials, or elevated mount with radials

Model 6-BTV

Bands _____ 10-15-20-30-40 & 75 or 80 meters
Length/weight _____ 24' / 16.5 lbs.
Mounting _____ vertical support up to 1-3/4" O.D.
Wind load _____ 29 Lbs. @ 70 mph
Power capability _____ Full legal limit SSB/CW
VSWR at resonance _____ 1.15 to 1 or better
Bandwidth _____ VSWR 2:1 or better at band edges on 10-40 meters (100 KHz on 75/80 meters)

Model 5-BTV

Bands _____ 10-15-20-40 & 75 or 80 meters
Length/weight _____ 25.1' / 17 lbs.
Mounting _____ vertical support up to 1-3/4" O.D.
Wind load _____ 29 lbs. @ 70 mph
Power capability _____ Full legal limit SSB/CW
VSWR at resonance _____ 1.15 to 1 or better
Bandwidth _____ VSWR 2:1 or better at band edges on 10-40 meters (100 KHz on 75/80 Meters)

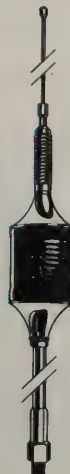
Model 4-BTV

Bands _____ 10-15-20-40 meters
Length/weight _____ 21'5" / 15 lbs.
Mounting _____ vertical support up to 1-3/4" O.D.
Power capability _____ Full legal limit SSB/CW
VSWR at resonance _____ 1.15 to 1 or better
Bandwidth _____ VSWR 1.6:1 at band edges



30 Meter Add-on Kit for 4-BTV and 5-BTV

- **Model 30-MTK**
- Full 30 meter Band coverage
- Will not affect normal operation
- Easy installation
- All hardware included
- Weight: 5 lbs.



RMX 10 Meter Mobile

- VSWR - 250-400 kHz under 2:1
- 1000 watt capacity
- Only 46 inches tall
- Can be trunk lip mounted using model HLM or TLM
- Stainless steel impact spring built into top of coil

Available in Black or white

Hustler Resonators

Standard Resonators

Power rating 400 watts SSB

Part	Description	Weight	Approx. Bandwidth 2:1 SWR or Better
RM-10	10 METER	.41 lbs.	150-250 kHz
RM-11	11 METER	.41 lbs.	150-250 kHz
RM-12	12 METER	.42 lbs.	90-120 kHz
RM-15	15 METER	.42 lbs.	100-150 kHz
RM-17	17 METER	.46 lbs.	150 kHz
RM-20	20 METER	.46 lbs.	80-100 kHz
RM-30	30 METER	.84 lbs.	50-60 kHz
RM-40	40 METER	.84 lbs.	40-50 kHz
RM-75	75 METER	1.05 lbs.	25-30 kHz
RM-80	80 METER	1.05 lbs.	25-30 kHz

Super Resonators

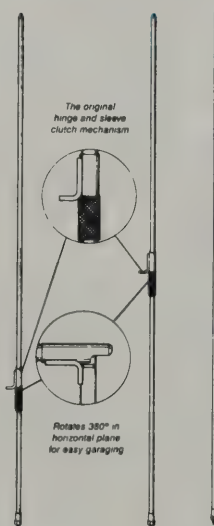
Power rating full legal limit. Super Resonators also offer wider bandwidth, especially on 40, 75 and 80 meters.

Part	Description	Weight	Approx. Bandwidth 2:1 SWR or Better
RM-10-S	10 METER	1.0 lbs.	250-400 kHz
RM-11-S	11 METER	1.0 lbs.	250-400 kHz
RM-15-S	15 METER	1.2 lbs.	150-200 kHz
RM-20-S	20 METER	1.2 lbs.	100-150 kHz
RM-40-S	40 METER	1.82 lbs.	50-80 kHz
RM-75-S	75 METER	2.11 lbs.	50-60 kHz
RM-80-S	80 METER	2.11 lbs.	50-60 kHz



Mobile HF Antennas

Hustler Masts



MO-1 Mobile mast. 54" high for deck or fender mounting - folds over 15" above base

MO-2 Mobile mast. 54" high, for bumper mounting - folds over 27" above base.

MO-3 Mobile mast. 54" high, Great for marine use!

- **MO-4** HF Mobile Mast.
- For use with Hustler HF resonators
- Only 22" long
- Suitable for trunk or deck mounting
- Includes 3 new tip rods



*Reliability & Performance...
Beyond Your Expectations!*

The New . . .



Spirit Series

**Low Profile/Broadband
Omni-directional Antennas
for 2m, UHF & 1.2GHz**

Strong! . . providing the highest performance and durability possible. Virtually impervious to wind and weather – the ideal choice for areas with hurricane force winds, hostile environments, or for remote sites.

Standard Features . . .

- **Gain:** 0, 3, 6, 9, 12dBd
- **Polarization:** Vertical
- **VSWR:** 1.5:1
- **Wind rating:** 140 to 160 mph
- **Feed lines:** Copper
- **Radome:** White Fiberglass
- **Mounting:** Aluminum Mast
- **Clamps:** Galv. Steel, accepts support pipe up to 3-1/4" O.D.
- **Lightning:** Direct Ground

for 2 meters . . .

Gain..... 0, 3, or 6dBd models
Bandwidth..... 6 MHz
Power Rating..... 600 Watts (max.)
Weight 23 lbs.
Wind Load 95 lbs (6db model)
Wind Area 1.4 sq. ft. (6dB model)

for UHF (406-510MHz) . . .

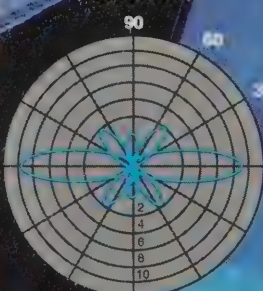
Gain..... 6dBd or 9dBd models
Bandwidth..... 20 MHz
Power Rating..... 600 Watts (max.)
Weight 13.7 lbs.
Wind Load 92 lbs (6dB model)
Wind Area 1.2 sq. ft. (6dB model)

for 1.2-1.3 GHz . . .

Gain..... 6, 9 or 12 dBd models
Bandwidth..... 80 MHz
Power Rating..... 300 Watts (max.)
Weight 10 lbs.
Wind Load 50 lbs (6dB model)
Wind Area 1 sq. ft. (6dB model)

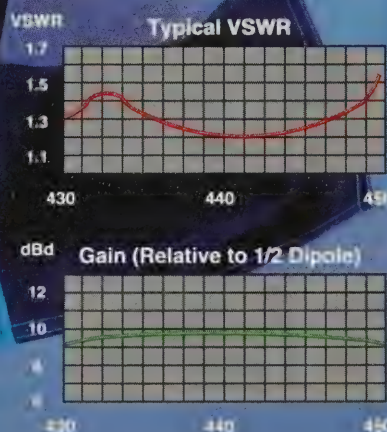
***For Spirit Models
and Pricing –
see HUSTLER
in the Price List .***

**Radiation Pattern
(Relative Field)**



Vertical

(0.5 Below Horizontal)



BUTTERNUT

HF Antennas



\$259⁹⁵

The HF-5B "Butterfly"™ COMPACT BEAM for 10-12-15-17-20 meters

- Unique design reduces size but not performance. • No lossy traps – the entire element radiates.
- 3dB gain on 20 meters, up to 5dB on 10 and 15 meters – rotary dipole performance on 17 meters.
- Boom length: 6 ft., wingspan: 12½ ft., handles 1.2 KW final input.
- 2.9 sq. ft. wind area, weighs 17 lbs., turns with TV rotor with up to 1½" mast.

VERTICALS

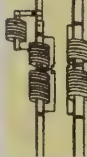
Uses Highest-Q tuning circuits (no lossy traps) to out-perform other multi-band designs of comparable

Model HF-6VX (left) • \$169⁹⁵

- Automatic bandswitching on 80, 40, 30, 20, 15 and 10 meters.
- Add-on kits for 160, 17 and 12 meters
- 26 ft. tall, self-supporting, legal limit.

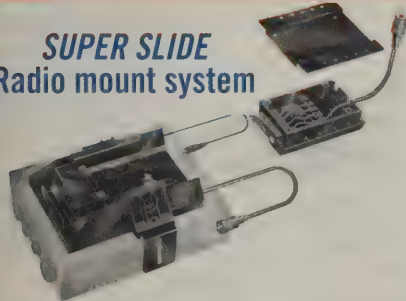
Model HF-2V (right) • \$159⁹⁵

- Automatic 80/40 meter bandswitching, add-on units for 160 or 30 meters.
- Low Angle of radiation – great for DX!
- 32 ft. tall, self supporting, handles the legal power limit.



GAMBER JOHNSON

SUPER SLIDE Radio mount system



Model SS-100 • Convenient! Radio slides in and out of mount instantly – without having to attach or remove cables. Power, Ground, Antenna, and Speaker leads connect and disconnect automatically. RF components are designed for a low SWR up to 500MHz. Adapts to most radios; bracket adjusts to case and can be attached above or below radio. \$49⁹⁵

SS-101 Extra base available for multiple vehicle use.... \$29⁷⁵

AMERITRON

Remote Coaxial Switches

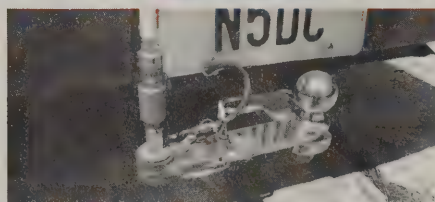


AMERITRON RCS-4 (left) • Select up to four different HF antennas while using just one coaxial feed line, and no control cable. The weatherproof switch box locates on a tower, mast or other remote location. The control box at your operating position switches antennas via control voltages directly through the coax. Rated for 1.8-30MHz and legal power limit. \$124⁹⁵

AMERITRON RCS-8V (right) • Independently or simultaneously selects up to five different antennas using just one coax feed-line and single 8-wire control cable. Internal wiring allows user to ground or float unused ports as required. Rated at 5KW below 30MHz and 1KW up to 150MHz..... \$139⁹⁵

DC SALES

'Tenna Hitch



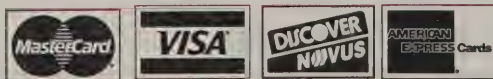
'Tenna Hitch • Consists of a heat treated, high strength aluminum bracket with an insulated 3/8" x 24 antenna mounting stud. Simple installation under the ball of a Class-1 or Class-2 trailer hitch ball. Rugged! - handles the largest mobile antennas and does not interfere with trailer towing. No holes to drill, all hardware supplied..... \$32⁹⁵

Hy-Gain/Telex "Contester" Boomset

Model 2400-155 • A high quality boomset (combination headset and boom mounted microphone) with a noise canceling Dynamic Microphone designed for the voice range (100-8000Hz) and providing maximum QSO intelligibility. The boom rotates and can be worn on either side, and microphone automatically shuts off when placed upright. Dynamic headphones have comfortable foam cushions with removable washable socks..... \$79⁹⁵



**Order Toll Free...Use your Credit Card
Experience AES® Same Day Shipping!**



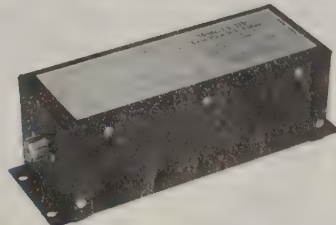
OAK BAY TECHNOLOGIES

Rubber Duck Window Mount

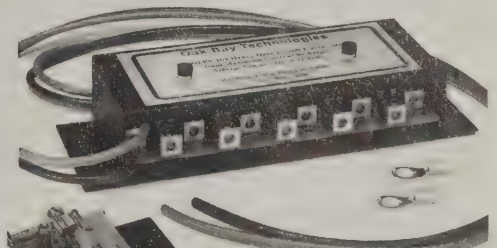
AM-101B • Improves mobile HT operation by getting RF out of the car. Great for emergencies, rental cars, etc. The custom stainless steel bracket slips on car window and the rubber duck antenna from your HT attaches to the BNC mount. Comes with 6 ft. of RG-174U coax with BNC connector. 50Ω, handles 15W, dual/twin band compatible \$24⁹⁵



Commercial Grade Low Pass Filter

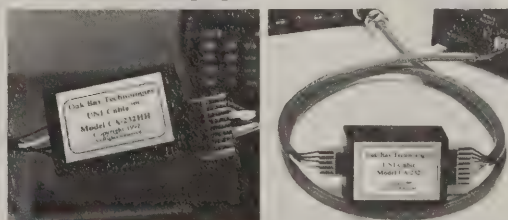


LP-11P • Installs in transmission line between HF Transmitter and power amplifier or tuner. Eliminates TVI by filtering out transmitter generated harmonics that could fall within TV bands. Eleven pole Chebyshev design covers 1.8 thru 30MHz with <.5dB insertion loss, an upper cutoff frequency of 41MHz and 80dB of ultimate attenuation. 50Ω, 1 KW RF \$69⁹⁵



High Current 12V Power Strip

PS-101 • One connection to power source (battery, power supply, etc.) provides 5 outputs – 2 fused at 20A and 3 at 30A. Rugged screw/clamp connections. Rated at 50A total current. Comes with 5 ft. of #8 gauge wire, terminals and fuses \$79⁹⁵



OAK BAY CA-232U Uni-Cable™ Interface (rt) • A universal Packet TNC cable that provides interfacing between a popular TNCs and all popular VHF/HF transceivers. No soldering, easily programmed by user to mate with 8-pin mic. connectors \$34⁹⁵

OAK BAY CA-232HH Uni-Cable™ Interface (left) • Connects popular TNCs to popular handhelds that use 2.5mm and 3.5mm microphone and earphone jacks. No soldering... \$34⁹⁵

Whether Starting Out or operating at the Highest Level, we have the Expertise to help you make the Right Choices in Ham Radio.

Order Toll Free: 1-800-558-0411

FAX: (414) 358-3337

AMATEUR ELECTRONIC SUPPLY® Inc.

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28940 Euclid Avenue
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1-800-321-3594

ORLANDO, Fla 32803
621 Commonwealth Ave
Phone (407) 894-3238
1-800-327-1917

CLEARWATER, Fla 34625
1898 Drew Street
Phone (813) 461-4267
No Toll Free Line

LAS VEGAS, Nev 89106
1072 N. Rancho Drive
Phone (702) 647-3114
1-800-634-6227



KLM HF Tribanders

The KT-34A and KT-34XA have become pacesetters for tribander performance. The four-element KT-34A offers an unusually compact solution for a three-band high performance installation. The six-element KT-34XA has been designed to outperform all commercially available tribanders and many monobanders as well. The high performance of these tribanders results from their innovative construction. Traps, coils, and capacitors found on conventional tribanders are replaced by lossless linear loading and high-Q air capacitors constructed of aluminum tubing. These techniques coupled with **MIRAGE/klm's** unique dual-driven element system allow broadband performance with high gain and low VSWR remaining nearly constant across the three bands. The KT-34A can be upgraded to the KT-34XA at any time.

The boom length of the KT-34XA is doubled, and one tri-resonant and one full-size 10-meter element is added. These changes increase the gain to 11-11.3 dBd on 10M, 9-9.5 dBd on 15M, and 8.5-9 dBd on 20M.

Structurally, the KT-34A is built tough. All the aluminum, including the boom, is strong weather-resistant 6063-T832 alloy. All the hardware is stainless steel except for the mounting U-bolts. Virtually indestructible insulators support the elements and insulate them from the boom. Rotation is possible by most any ham rotor. Wind balance and wind survival are excellent.

The same high efficiency is now available in **MIRAGE/klm's** NEW! KT-31 DIPOLE for the 10, 15 and 20 Meter bands.

ELECTRICAL

Bandwidth 20, 15, & 10 Meters
VSWR Less than 1.5:1
Feed Imp 50 Ω
Balun 3-60-1:1

KT-31 DIPOLE



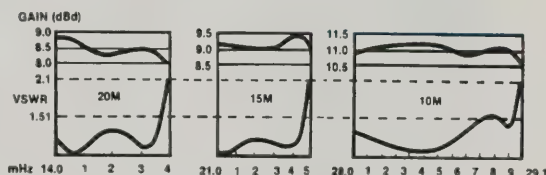
MECHANICAL

Length 24' - 6"
Weight 9 lbs.
Mast 2 in. (5.08 cm)
Windload85 sq. ft. (.08 sz.M)

ELECTRICAL

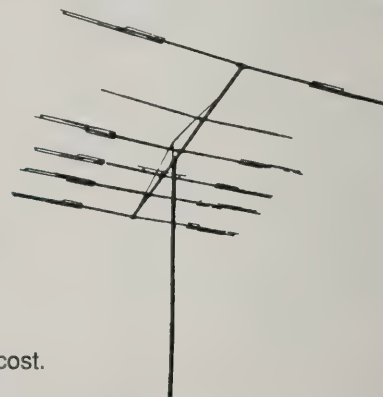
Bandwidth 14.0-14.350 MHz
..... 21.0-21.450 MHz
..... 28-29.7 MHz
Gain 8.5-9 dBd
..... 9-9.5 dBd
..... 11-11.3 dBd
VSWR Less than 1.5:1
F/B Greater than 20 dB
F/S Greater than 40 dB
Feed Imp 50 Ω with balun
Balun 4:1, 5 kW PEP

KT-34XA



GAIN vs VSWR

*Also available with a heavy duty boom at additional cost.



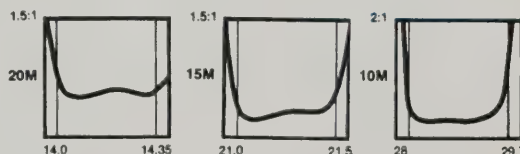
MECHANICAL

Element Length 24 ft.
Boom Length 32 ft.
Turn Radius 21.5 ft.
Windload 9 sq. ft.
Weight 68 lbs.
Mast 2 in. O.D.

ELECTRICAL

Bandwidth 14.0-14.350 MHz
..... 21.0-21.450 MHz
..... 28-29.7 MHz
Gain 7 dBd \pm 0.3 dB
VSWR Less than 1.5:1
F/B Greater than 20 dB
F/S Greater than 30 dB
Feed Imp 50 Ω with balun
Balun 4:1, 5 kW PEP

KT-34A



VSWR



MECHANICAL

Element Length 24 ft.
Boom Length 16 ft.
Turn Radius 16 ft.
Windload 6 sq. ft.
Weight 45 lbs.
Mast 2 in. O.D.

KLM WARC HF Tribanders • Vertical/Dipole

12-17-30V

ELECTRICAL:

BANDWIDTH 30, 17, & 12 Meters
VSWR Less than 1.5:1
FEED IMPEDANCE 50 Ω
BALUN —

MECHANICAL:

LENGTH/HEIGHT 21'-3" — (6.43 M)
WEIGHT 6.5 lbs.
MAST 2 in. (5.08 cm)
WINDLOAD 1 sq. ft. (0.093 sq. M)



12-17-30D

30, 17, & 12 Meters
1.5:1
50 Ω
3-60 1:1

39' - 8.5" — (12.10 M)
13 lbs.
2 in. (5.08 cm)
2 sq. ft. (0.186 sq. M)



KLM VHF Yagis

6 METERS



6M-7LB
Long Boom



2M-16LBX

6M-14

ELECTRICAL:

BANDWIDTH	50-52 MHz
GAIN	14.0 dBd
VSWR	Less than 1.5:1, 50-51 MHz
F/B	Greater than 26 dB
BEAMWIDTH	E=33°, H=36°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 5 kW PEP
WAVELENGTH	3.10

6M-10

BANDWIDTH	50-52 MHz
GAIN	11.7 dBd
VSWR	1.5:1, 50-51 MHz
F/B	25 dB
BEAMWIDTH	E=40°, H=45°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 5 kW PEP
WAVELENGTH	1.74

6M-7LB

Long Boom

BANDWIDTH	50-52 MHz
GAIN	11.5 dBd
VSWR	15.5:1, 50-51 MHz
F/B	30 dB
BEAMWIDTH	E=39°, H=43°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 5 kW PEP

6M-7LD

Light Duty

BANDWIDTH	50-51 MHz
GAIN	10.5 dBd
VSWR	1.5:1
F/B	30 dB
BEAMWIDTH	E=39°, H=43°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 5 kW PEP

6M-5

BANDWIDTH	50-52 MHz
GAIN	9.7 dBd
VSWR	1.5:1
F/B	30 dB
BEAMWIDTH	E=40°, H=44°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 5 kW PEP

MECHANICAL:

ELEMENT LENGTH	9.75 ft.
BOOM LENGTH	61 ft.
TURN RADIUS	35.75 ft.
WINDLOAD	10 sq. ft.
WEIGHT	73 lbs.
MAST	2 in.

ELEMENT LENGTH	9.75 ft.
BOOM LENGTH	34 ft., 2 in.
TURN RADIUS	19.5 ft.
WINDLOAD	4.4 sq. ft.
WEIGHT	29 lbs.
MAST	2 in.

ELEMENT LENGTH	61 in.
BOOM LENGTH	25.75 ft.
TURN RADIUS	19.5 ft.
WINDLOAD	3 sq. ft.
WEIGHT	22 lbs.
MAST	2 in.

ELEMENT LENGTH	61 in.
BOOM LENGTH	20 ft.
TURN RADIUS	13 ft.
WINDLOAD	2.5 sq. ft.
WEIGHT	12 lbs.
MAST	2 in.

ELEMENT LENGTH	57.75 in.
BOOM LENGTH	11.75 ft.
TURN RADIUS	7.5 ft.
WINDLOAD	1.7 sq. ft.
WEIGHT	9 lbs.
MAST	2 in.

2 METERS

ELECTRICAL:

BANDWIDTH	SPEC. 144-146 USABLE 143-148 144-15.5 dBd
GAIN	145-15.5 dBd 146-15.4 dBd 147-15.3 dBd 148-13.7 dBd
VSWR	Less than 1.2:1
F/B	Greater than 30 dB
BEAMWIDTH	E=26°, H=28°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 2 kW Coax

2M-16 LBXM

BANDWIDTH	SPEC. 144-146 USABLE 143-148 144-14.5 dBd
GAIN	145-14.5 dBd 146-14.4 dBd 147-14.3 dBd 148-13.2 dBd
VSWR	1.2:1
F/B	20 dB
BEAMWIDTH	E=26°, H=29°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 2 kW Coax

2M-13 LBA

BANDWIDTH	144-148 MHz
GAIN	13.3 dBd
VSWR	1.2:1
F/B	20 dB
BEAMWIDTH	E=28°, H=33°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 2 kW Coax

2M-11 X

BANDWIDTH	SPEC. 144-146 USABLE 143-148
GAIN	12.5 dBd
VSWR	1.2:1
F/B	20 dB
BEAMWIDTH	E=30°, H=34°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 2 kW Coax

2M-8

BANDWIDTH	144-148 MHz
GAIN	10.3 dBd
VSWR	1.2:1
F/B	30 dB
BEAMWIDTH	50°
FEED IMPEDANCE	50 Ω
BALUN	1:1 Sleeve, 2 kW

2M-4 X

BANDWIDTH	144-148 MHz
GAIN	8.5 dBd
VSWR	1.5:1
F/B	20 dB
BEAMWIDTH	62°
FEED IMPEDANCE	50 Ω
BALUN	4:1, 2 kW Coax

MECHANICAL:

ELEMENT LENGTH	40-5/8 in.
BOOM LENGTH	38.5 ft.
TURN RADIUS	21 ft., 10 in.
WINDLOAD	2.19 sq. ft.
WEIGHT	17 lbs.
MAST	2 in.

ELEMENT LENGTH	40-5/8 in.
BOOM LENGTH	28 ft.
TURN RADIUS	15 ft. - 5 in.
WINDLOAD	1.75 sq. ft.
WEIGHT	10 lbs.
MAST	2-1/8 in. max.

ELEMENT LENGTH	40-5/8 in.
BOOM LENGTH	21.5 ft.
TURN RADIUS	13 ft.
WINDLOAD	1.6 sq. ft.
WEIGHT	9 lbs.
MAST	2 in.

ELEMENT LENGTH	40-5/8 in.
BOOM LENGTH	15 ft., 4 in.
TURN RADIUS	9 ft.
WINDLOAD	1.38 sq. ft.
WEIGHT	5.5 lbs.
MAST	2-1/8 in. max.

ELEMENT LENGTH	40-5/8 in.
BOOM LENGTH	7.25 ft.
TURN RADIUS	4 ft.
WINDLOAD	.65 sq. ft.
WEIGHT	4 lbs.
MAST	2 in.

ELEMENT LENGTH	40-5/8 in.
BOOM LENGTH	4.2 ft.
TURN RADIUS	4 ft.
WINDLOAD	.25 sq. ft.
WEIGHT	2 lbs.
MAST	2 in.

220 MHz

ELECTRICAL:

BANDWIDTH	220-225 MHz
GAIN	15.6 dBd
VSWR	Less than 1.5:1
F/B RATIO	Greater than 20 dB
F/S RATIO	Greater than 30 dB
BEAMWIDTH	E=22°, H=25°
FEED IMPEDANCE	50 Ω
BALUN	4:1 Coax. 2 kW PEP

220-22 LBX

220-14X

BANDWIDTH	220-225 MHz
GAIN	13.5 dBd
VSWR	1.5:1
F/B	20 dB
F/S	30 dB
BEAMWIDTH	E=28° H=32°
FEED IMPEDANCE	50 Ω
BALUN	4:1 Coax. 2 kW PEP

220-7

BANDWIDTH	219-226 MHz
GAIN	8.8 dBd
VSWR	1.5:1
F/B	20 dB
F/S	30 dB
BEAMWIDTH	E=54° H=60°
FEED IMPEDANCE	50 Ω
BALUN	1:1 Sleeve 2kW

MECHANICAL:

ELEMENT LENGTH	30 in.
BOOM LENGTH	29.9 ft. (6.65 wavelengths)
TURN RADIUS	16 ft. 4 in.
WINDLOAD	2.0 sq. ft.
MOUNTING	Center
WEIGHT	10 lbs.
MAST	2-1/8" max.

ELEMENT LENGTH	30 in.
BOOM LENGTH	14 ft. 7 in. (3.27 wavelengths)
TURN RADIUS	8 ft.
WINDLOAD	1.33 sq. ft.
MOUNTING	Center
WEIGHT	6.5 lbs.
MAST	2-1/8" max.

ELEMENT LENGTH	30 in.
BOOM LENGTH	4.75 ft.
TURN RADIUS	4 ft.
WINDLOAD	.73 sq. ft.
MOUNTING	Rear/Center
WEIGHT	9 lbs.
MAST	1-1/2 in.

432 MHz

432-30 LBX

BANDWIDTH	430-440 MHz
GAIN	17.3 dBd
VSWR	1.2:1
F/B	20 dB
BEAMWIDTH	E=19° H=20°
FEED IMPEDANCE	50 Ω
BALUN	1:1 Sleeve, 2 kW

432-20 LBX

BANDWIDTH	425-440 MHz
GAIN	15.3 dBd
VSWR	1.2:1
F/B	20 dB
BEAMWIDTH	E=26° H=28°
FEED IMPEDANCE	50 Ω
BALUN	1:1 Sleeve, 2 kW



432-20 LBX

ELEMENT LENGTH	14 in. max.
BOOM LENGTH	21 ft. 11 in. (9.6 wavelengths)
TURN RADIUS	12 ft. 4 in.
WINDLOAD	1.72 sq. ft.
MOUNTING	Center
WEIGHT	9 lb.
MAST	2-1/8 in. max.

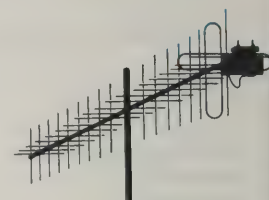
ELEMENT LENGTH	14 in. max.
BOOM LENGTH	12 ft. 4 in. (5.42 wavelengths)
TURN RADIUS	7 ft.
WINDLOAD	0.9 sq. ft.
MOUNTING	Center
WEIGHT	5 lbs.
MAST	1-1/2 in.

KLM Satellite Circulars • VHF/UHF

	2M-14C	2M-22C	435-18C	435-40CX
ELECTRICAL:				
BANDWIDTH	144-150 MHz	144-150 MHz	420-450 MHz	420-450 MHz
GAIN	11 dBc	13 dBc	12 dBc	15.2 dBc
VSWR	Less than 1.2:1	1.5:1	1.5:1	1.5:1
F/B	Greater than 20 dB	20 dB	20 dB	20 dB
FEED IMP	50 Ω	50 Ω	50 Ω	50 Ω
BEAMWIDTH	38°	34°	34°	25°
ELLIPTICITY	3 dB max	3 dB max	3 dB max	3 dB max
BALUN	(2) 4:1 coax, 2 kW*	(2) 4:1 Coax, 2 kW*	(2) 4:1 Coax, 2 kW*	(2) 4:1 Coax, 2 kW*
MECHANICAL:				
ELEMENT LENGTH	40.625 in. max	40.625 in. max	13.25 in. max	13.625 in. max
BOOM LENGTH	12 ft., 9 in.	19 ft., 1 in.	7 ft., 4 in.	14 ft., 7 in.
TURN RADIUS	7 ft.	11 ft.	7 ft.	8 ft., 9 in.
WINDLOAD	1.25 sq. ft.	1.85 sq. ft.	0.5 sq. ft.	1.16 sq. ft.
WEIGHT	7.5 lbs.	11 lbs.	4.5 lbs.	10 lbs.
MAST	2 in.	2 in.	1.5 in.	1.5 in.
MOUNT	Center	Center	Rear	Center
POLARITY	Circular R.H and L.H. switchable using CS-3		Circular R.H and L.H. switchable using CS-2	



2M-22C



435-40CX

* Derate to 250W when using Switchers (supplied)

KLM UHF Yagis • Special for ATV

440 MHz

	440-16X	440-10X	440-6X
ELECTRICAL:			
BANDWIDTH	420-450 MHz	420-470 MHz	420-470 MHz
GAIN	14.0 dBd	11.5 dBd	8.9 dBd
VSWR	Less than 1.2:1	1.2:1	1.2:1
F/B	Greater than 20 dB	20 dB	20 dB
FEED IMPEDANCE	50 Ω	50 Ω	50 Ω
BALUN	Coax "N" 1:1, 2kW	Coax "N" 1:1, 2kW	Coax "N" 1:1 2kW
BEAMWIDTH	E=28°, H=32°	48°	60°
MECHANICAL:			
ELEMENT LENGTH	14 in. max.	14 in. max.	14 in. max.
BOOM LENGTH	12 ft.	4.75 ft.	28 in.
TURN RADIUS	6 ft.	4.90'	2 ft., 5 in.
WINDLOAD	0.74 sq. ft.	0.53 sq. ft.	0.2 sq. ft.
WEIGHT	7.5 lbs.	4 lbs.	1.2 lbs.
MAST	1-1/2 in.	1-1/2 in.	1-1/2 in.
MOUNT	Center	Rear or Center	Rear or Center

440 MHz: Use with our 70cm Amplifiers on page 3 for ATV, FM, and SSB operations.

1296 MHz

	1.2-44LBX	1.2-24LBX	1.2-15LBX
ELECTRICAL:			
BANDWIDTH	1260-1300 MHz	1260-1300 MHz	1260-1300 MHz
GAIN	18.2 dBd	16.2 dBd	13.6 dBd
VSWR	1.5 to 1	1.5:1	1.5:1
F/B	39 dB	39 dB	39 dB
FEED IMPEDANCE	50 Ω	50 Ω	50 Ω
BALUN	4:1 Rigid Coax	4:1 Rigid Coax	4:1 Rigid Coax
BEAMWIDTH	E=16°, H=18°	E=22°, H=24°	E=28°, H=30°
MECHANICAL:			
ELEMENT LENGTH	4.5 in.	4.5 in.	4.5 in.
BOOM LENGTH	12'4"	75-3/4 in.	42 in.
TURN RADIUS	84 in.	38 in.	43 in.
WINDLOAD	1 sq. ft.	1/2 sq. ft.	1/4 sq. ft.
WEIGHT	10 lbs.	7 lbs.	4 lbs.
MAST	2" O.D.	up to 2" O.D.	up to 2" O.D.
MOUNT	Center	Center	Rear

1296 MHz: These can be used in circular mode.



440-16X



1.2 - 44 LBX

KLM HF Verticals

160V VERTICAL

ELECTRICAL:	
BANDWIDTH	1.8-2.0 MHz — x 20 kHz
VSWR	Less than 1.5:1
FEED IMP	50 Ω
MECHANICAL:	
HEIGHT	24 ft.
WINDLOAD	1.4 sq. ft.
WEIGHT	10 lbs.
MAST	2 in.



40-10V VERTICAL

7, 14, 21, 28 MHz
1.5:1
50 Ω
26.5 ft.
1.8 sq. ft.
23 lbs.
2 in.

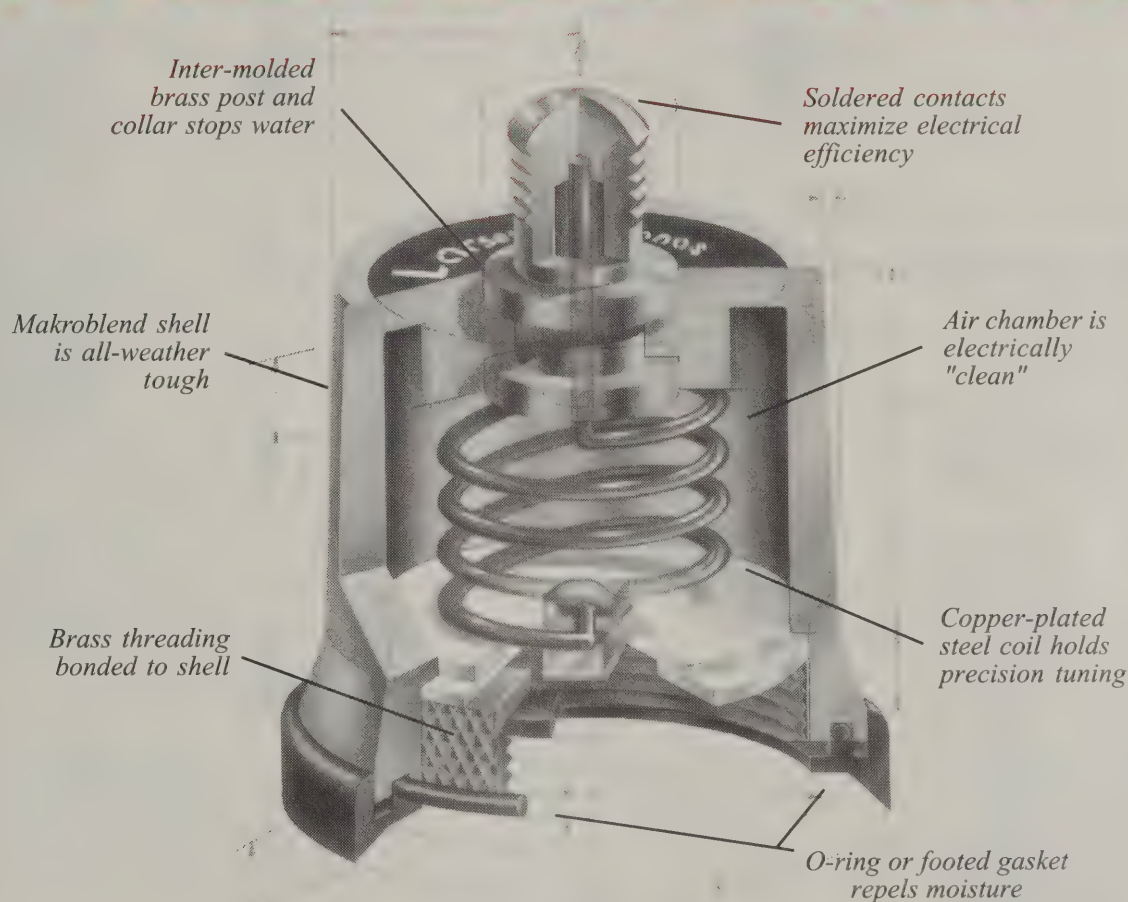


SSV 80-40-15

75/80, 40, 15M+
1.5:1
50 Ω
60-65 ft.
100 MPH + Wind Survival
88 lbs.
3 anchors set in cement



A Quality Antenna Is Like A Quality Human Being- It's What's Inside That Counts.



There are two good ways to judge a quality antenna.

First, you ask the right questions: Is the coil precision-made like the NMO mount VHF type shown? Is the whip copper-plated (Kūlrod) so signal energy becomes distance, not heat? Is the coax top quality Belden for low noise and long life?

The other way is to simply do what experienced amateurs have done for almost thirty years, ask for Larsen. An American brand, started by a HAM,

with a proven reputation for innovation, quality and service.

Either way the more you learn about antennas, the more you'll appreciate Larsen.

And the more you'll appreciate AES as your source for Larsen.





Kūlduckie®

High Performance,
rugged portables.

KD4 146 HQ

- 146 MHz
(ICOM 136 MHz)
- Helical quarter wave
- Brass-copper-steel core
- Fully soldered
- Silver plated,
double spring BNC
- Approx 9 1/2" high



Kūlglass®

No holes and
Great Performance.

KG 144 PL

- 144-160 MHz
- 1/2 wave;
2.4 dBd (4.6 dBi)
- 1.5 to 1 VSWR
- 50 watts
- RG58/U; PL 259



Kūlrod®

Maximize your
transmit range.

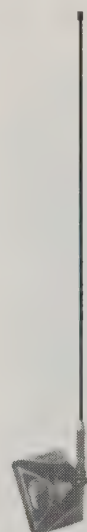
NMO 150-NLA 150

- 144-174 MHz
- 5/8 wave;
3dBd (5.2 dBi)
- 1.5 to 1 VSWR
- Copper plated 17-7
steel rod
- Air wound, copper-
steel base
- 200 watts
- 3/4" NMO or
3/8" NLA mount
- Gray or Black coil



KD4 445 Helical

- Copper plated,
steel core
- Fully soldered
- Silver plated, double
spring BNC
- Approx 3" high



KG 440 PL

- 440-460 MHz
- 1/2 wave;
2.4 dBd (4.6 dBi)
- 1.5 to 1 VSWR
- 50 watts
- RG58/U; PL 259



NMO 440-NLA 440

- 440-460 MHz
- 5/8 over 1/2;
4.5 dBd (6.7 dBi)
- 1.5 to 1 VSWR
- Copper plated 17-7
steel rod
- Air wound, copper-
steel base
- 200 watts
- 3/4" NMO or
3/8" NLA mount
- Gray coil



Dual Band KD4 2/70

- Quarter wave on 2M
and 70cm
- Fully soldered
- Brass-copper-steel core
- Ultra strong shaft
- Silver plated,
double spring BNC
- Approx 8" high



Dual Band KG 2/70 PL

- 144-148 &
442-448 MHz
- VHF 1/2 wave;
2.5 dBd (4.7 dBi)
- UHF Collinear;
4.5 dBd (6.7 dBi)
- 1.5 to 1 VSWR
- 50 watts
- RG58/U; PL259



Dual Band NMO 2/70 NLA 2/70 PO 2/70

- 144-148 & 440-450
- VHF: 5/8 wave;
2.4 dBd (4.6 dBi)
- UHF: Collinear;
4 dBd (6.2 dBi)
- 1.5 to 1 VSWR
- Copper plated
17-7 steel rod
- 100 watts
- 3/4" NMO, 3/4" PO
or 3/8" NLA mount
- Gray or black coil

**Efficient and accurate performance
are built into every Larsen Antenna.**



Larsen Antennas
The Amateur's Professional™

MFJ *halfwave vertical* Antenna

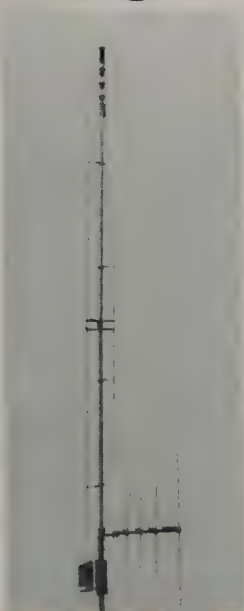
6 bands: 40, 20, 15, 10, 6, 2 Meters . . . No radials or ground needed!

MFJ-1796

\$**179⁹⁵**

Features:

- Compact--only 12 feet high with 24 inch footprint
- Quick and Easy to install
- Low Angle Radiation really pulls in DX
- Omni Directional Coverage, Low SWR
- Handles up to 1500 Watts PEP on HF
- No Traps--uses efficient end loading to provide full electrical halfwave
- Hi-Q Loading Coils wound on low loss ceramic forms
- Aluminum construction with Stainless Steel Hardware
- One Year *No Matter What*™ Guarantee
- Made in USA



MFJ *Super Hi-Q Loop*™ Antenna

. . . 36 inch diameter -- it's the smallest, high efficiency 10-30 MHz continuous coverage antenna ever made for ham radio . . .

- Only 36" diameter but covers 10-30 MHz
- Round conductor more efficient than flat strip
- No separate control cable needed
- All welded construction
- Welded butterfly capacitor, no rotating contacts
- Automatic Band Selection™, SWR/Wattmeter

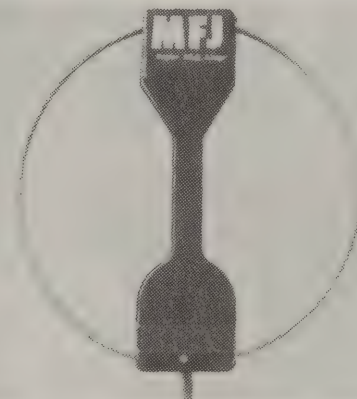
MFJ-1786

\$**229⁹⁵**

Only 36 inches in diameter, the portable MFJ Super Hi-Q Loop™ is the smallest high efficiency 10 to 30 MHz continuous coverage antenna ever manufactured for ham radio.

You can take it with you and have it up and operating in minutes from nearly anywhere -- on trips, vacations, from hotels, DX-peditions, camping, even from a motorhome.

Its rugged all welded aluminum construction with built-in



Remote Control (included) makes MFJ Super Hi-Q Loop™ easy-to-tune and extra portable

MFJ's exclusive Automatic Band Selection™ feature auto-tunes to your desired band and lets you know with a beep.

It's extra portable because . . .

. . . you don't need a separate control cable -- the coax feedline carries both RF power and tuning control signals.

. . . you don't need a separate SWR meter -- a two range Cross-Needle SWR/Wattmeter is built-in.



Super Loop™ Remote Control

. . . you don't need a separate power cord because it's battery powered -- you can also use isolated 12VDC or 110 VAC. 3 1/4 x 6 x 2 1/2 inches.

mounting bracket makes it ideal for home installations where space is limited -- apartments, condos, small lots, attics, closets -- it's so small it'll hardly be noticed.

The excellent performance of a high efficiency small loop antenna is well known and well proven by users all over the world.

It does not need a ground, radials or counterpoise. It covers 10-30 MHz continuously including the WARC bands with low SWR and handles a nominal 150 watts. No external antenna tuner is needed.

MFJ-1782, \$199.95. Same as MFJ-1786 but with standard controller with fast tune and slow tune buttons. Does not have SWR/wattmeter or Auto Band Selection™

AMATEUR ELECTRONIC SUPPLY, INC. 5710 W. Good Hope Road; Milwaukee, WI 53223
AES Milwaukee, WI 800-558-0411 Wickliffe, OH 800-321-3594
 Clearwater, FL 813-461-4267 Orlando, FL 800-327-1917
 Las Vegas, NV 800-634-6227

OUTBACKER®

THE ULTIMATE ALL-BAND HF MOBILE ANTENNA

Cover All Bands including WARC's with one neat built-to-last antenna! Broadbanded - perfect for your all-band mobile transceiver operation!

NO CHANGING COILS!

Six ft. long, rated at 300 watts PEP with a 500 watt option available. Also, four ft. Jr. model rated at 150 watts PEP.

The entire body of the antenna is constructed of fiberglass with pre-tuned copper helical windings. The exterior is covered with smooth, epoxy resin, and polyurethane for strength, durability, and protection. Band tap points are sockets made of rust free brass and clearly engraved for each band.

The **Wander Lead** is used for quick and easy manual band changing. No extra coils or whips to carry in the trunk! This is accomplished by plugging the lead into the lowest socket, then winding it counterclockwise to the band tap and plugging it in. A stainless steel retaining pin keeps the plug in place. Positioning the WanderLead and adjusting the stainless-steel tuning rod at the tip allows tuning for lowest SWR.

The bottom mounting ferrule is made of high-strength stainless steel and has 3/4" x 24 threads. An *optional* spring is constructed of heavy-duty zinc-plated spring steel, and rust free nickel-plated machined base. Base is two inches in diameter with an SO-239 connector.

Outbacker® Models

OB-8 • 300 watts PEP - 6 ft. long - 75, 40, 30, 20, 17, 15, 12, 10 meters . \$259⁰⁰

OB-8HP • Rated 500 watts PEP ... \$289⁰⁰

OB-S8 (SPLIT) • Same as OB-8, but breaks down for easy storage; storage pouch included. \$289⁰⁰

OB-JR8 • 150 watts PEP - 4 ft. long - 75, 40, 30, 20, 17, 15, 12, 10 meters . \$229⁰⁰

MARINER OB-M • 300W PEP - 6 ft. long - Covers Amateur Bands: 75, 40, 20, 17, and 10m. ITU bands: 4.1, 8.2, 12.4, 16.5 & 22.1MHz, plus 2.182MHz distress calling frequency. 3/8" x 24 mt \$389⁰⁰

Outbacker® "PERTH"

Looks similar to the regular Outbacker. A slightly different design - it's 7-1/2 ft. long, comprised of a 4 ft. main shaft where the taps are located, and a 3-1/2 ft. stinger. Higher Q design offers improved efficiency on 75/40m. Low wind drag allows easy mounting on trunk lip, hatch or bumper. Covers 75, 40, 30, 20, 17, 12 and 10 meters. Rated at 150 W PEP. With a suitable counterpoise works nicely for condos, apartments, portable, etc \$269⁰⁰

- The perfect "mate"
- for your all-band rig
- Low SWR
- Easy to use
- Built to last



Shown above is the newest of the Outbacker® line used in conjunction with the Diamond K400K-3/8M mount. The Outbacker® Perth can easily be trunk-lip mounted on sedans and van hatches. Now with the introduction of smaller HF rigs, mobiling in the HF mode is easier than ever!

For all of your Outbacker® questions and mounting recommendations contact one of these **AES®** Outbacker® experts: ➡

Nathan, KN4BJ
Orlando, FL
1-800-327-1917



Harold, N5ANO
Las Vegas, NV
1-800-634-6227



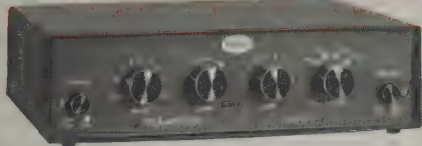
Phil, WD8AAN
Wickliffe, OH
1-800-321-3594



John, AB9G
Milwaukee, WI
1-800-558-0411



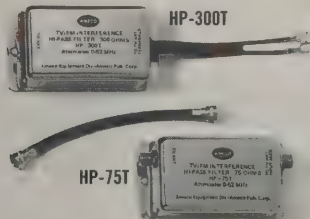
AMECO



AMECO PT-3 Preamplifier • Covers 160 thru 6 meters and usable useable with either a receiver or transceiver. Tunable low noise dual gate FET circuit provides more than 20dB gain with low noise figure and improved spurious and image rejection. RF sensed switch with variable delay automatically bypasses to antenna on transmit. Second receiver and antenna capability. 12V DC. 2½" h x 8¼" w x 6½" d **\$119⁹⁵**
P-12T • 12V DC power supply for above **\$9⁹⁵**



AMECO TPA Tunable Preamp and Active Antenna • A dual function receiver accessory. May be used with an outside antenna as a tunable preamplifier with more than 20dB gain and low noise figure, or as an effective indoor active antenna using the built-in 30" collapsible whip. Covers 2 to 30 MHz in 5 bands. 9V DC. 2½" h x 8" w x 6½" d **\$69⁹⁵**
PT-9T • 9V DC power supply for above **\$9⁹⁵**



AMECO High Pass Filters • Stops TV, FM and VCR interference caused by harmonics and signal overload from amateur radio transmissions, etc. Easy installation at TV antenna input terminals or connector. Provides a sharp frequency cut-off at 52MHz with 70dB attenuation below 50MHz. Models for 75Ω or 300Ω TV antenna lead-ins or 75Ω cable systems. Order **Model HP-300T** (300Ω) or **HP-75T** (75Ω) **\$12⁹⁵**



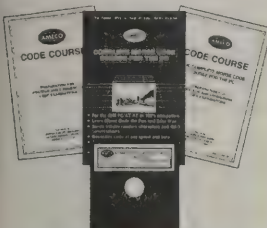
AMECO OCM-2 • A Code practice oscillator and CW monitor combination with volume control and quality 3 inch speaker. Requires a code key and 9V battery.
Kit \$19⁹⁵ • Wired \$24⁹⁵



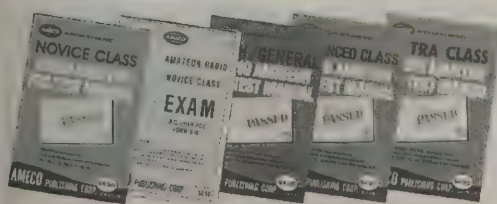
AMECO K-1 • Low-cost general purpose key with phenolic base, adjustable tension and contact spacing. **\$7⁹⁵**



AMECO K-4 • Deluxe high quality key. Polished brass base, and shorting bar. **\$12⁹⁵**



AMECO
Code Courses
License Guides
Test Manuals
See Price List



THE SMILEY ANTENNA CO.

Hand Tuned Antennas for your Hand Held Radios



Each Smiley handheld antenna is individually hand tuned to resonance at band center under normal operating conditions. (No ground plane - No radials). Manufactured from the finest heat-treated copper plated spring steel coils. Cold rubber compound is used for coil insulation and a neoprene heat-shrink coating applied for strength and endurance. All have BNC connectors.

THIN STICK • 1/4 wave telescoping dual band antenna for 144 and 220MHz bands (TS) **\$16⁹⁵**

SUPER STICK II (A) • 2 meter, 5/8-wave, flexible base loaded telescoping antenna. 6-9db gain fully extended (54"); usable fully collapsed, or one section 1/4 wave. Length: 54" extended, 10" collapsed (SS-II) **\$19⁹⁵**

SUPER STICK II COMBO • As above but includes a 2 meter Stubby Duck antenna (D) (SS-II/COMBO) **\$26⁹⁵**

5/8 SLIM DUCK (B) • 2-meter, 5/8-wave, 7db gain, flexible base loaded antenna. 12" long (5/8 SLD-2) **\$17⁹⁵**

5/8 SLIM DUCK COMBO • As above, but includes a 2 meter Stubby Duck antenna (D) (5/8 SLD-2 COMBO) **\$24⁹⁵**

REGULAR DUCK (C) • For 2 meters. Tuned Ducks show a 3db gain over other Rubber Ducks because they are impedance matched for hand-helds. (RD-2) **\$14⁹⁵**

STUBBY DUCK (D) • Tuned, efficient, for 2M (RDS-2) **\$14⁹⁵**

SUPER STICK III • 220MHz 5/8-wave, flexible base loaded telescoping antenna. 6-9db gain fully extended; also usable fully collapsed, or a one section 1/4 wave. Length: 36" extended, 8" collapsed (SS-III) **\$19⁹⁵**

SUPER STICK III/COMBO • As above but includes a 220MHz Stubby Duck antenna (G) (SS-III/COMBO) **\$26⁹⁵**

5/8 SLIM DUCK (E) • 220MHz, 7db gain, flexible base loaded antenna. Length: 9" (5/8 SLD-220) **\$17⁹⁵**

5/8 SLIM DUCK COMBO • As above, but includes a 220MHz Stubby Duck (G) (5/8 SLD-220 COMBO) **\$24⁹⁵**

REGULAR DUCK (F) • Tuned for 220MHz (RD-220) **\$14⁹⁵**

STUBBY DUCK (G) • Tuned for 220MHz (RDS-220) **\$14⁹⁵**

SUPER STICK IV (H) • 440MHz 5/8-wave, flexible base loaded telescoping antenna. 6-9db gain extended; usable collapsed. 18" extended, 5¼" collapsed (SS-IV) **\$19⁹⁵**

SUPER STICK IV COMBO • As above but includes a 440MHz Stubby Duck (K) (SS-IV/COMBO) **\$26⁹⁵**

SLIMLINE (I) • 440MHz, 1/4λ flexible ant .. (SL-440) **\$12⁹⁵**

5/8 SLIM DUCK (J) • 440MHz, 7db gain, flexible base loaded antenna. Length: 5" (5/8 SLD-440) **\$17⁹⁵**

5/8 SLIM DUCK COMBO • As above, but includes a 440MHz Stubby Duck (K) (5/8 SLD-440 COMBO) **\$24⁹⁵**

STUBBY DUCK (K) • Tuned for 440MHz (RDS-440) **\$14⁹⁵**

MINI DUCK (L) • Tuned for 440MHz (RDMD-440) **\$14⁹⁵**

FLEX-COIL (M) • 2 meter, 1/2wave, 7-9 dB gain, flexible base 35" fully extended **\$25⁹⁵**

270A (N) • Telescoping 2m/440 gain antenna. 1/4 wave (2m) 5/8 wave (440 MHz) **\$19⁹⁵**

TAQ • 1/4-wave whip, specify 2M, 220 or 440MHz **\$10⁹⁵**

A Smiley for your every need!

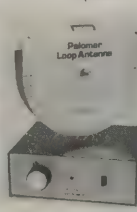
PALOMAR Engineers



PALOMAR RX-100 Noise Bridge • One measurement tells if your antenna is resonant, and if not, whether it is too long or too short. Shows resistance and reactance values of coax fed antennas from 1-100MHz. Install between receiver and feedline. Tune receiver to frequency and adjust controls for a noise null and interpret the readings according to instructions. Useful for off-the-air tune-up of transmitters and tuners, and to adjust tuned circuit resonance. Uses 9V battery. 5¼" x 3" x 1¼" **\$79⁹⁵**

PALOMAR PT-340 Tuner-Tuner (right) • Eliminate tune-up QRM and finals overheating by adjusting your 1.7-30MHz station antenna tuner without transmitting. Installs permanently between rig and antenna tuner. Simply turn it on, and listen to the noise output from the Tuner-Tuner in your receiver. Adjust your tuner for a null. Requires 9V battery. 6" x 5" x 3" ... **\$99⁹⁵**

PALOMAR LA-1 VLF to 15MHz LOOP Antenna/20dB Amplifier • Picks up less noise than other antennas. Six plug-in loops for various frequency ranges rotate and tilt to produce sharp nulls that cancel interference and noise. 2¼" x 7¼" x 6" **\$99⁹⁵**
Choose loops for: 10-40kHz, 40-150kHz, 150-550kHz, 550-1600kHz, 1.6-5MHz or 5-15MHz ranges each **\$89⁹⁵**



PALOMAR P-410X/412X Preamplifiers for Transceivers
 Covers 160-6M in 4 ranges. Installs in-line between transceiver and antenna. Improves reception with adjustable gain up to 20dB, lower noise figure, better selectivity and overload capability. Automatic bypass switching to the antenna on transmit. 3" h x 8¼" w x 5" d **P-410X (115V) • P-412X (12V) \$169⁹⁵**

PALOMAR P-405/408 Receiver Preamplifiers
 Features same as above except for receiver only. Includes a two position antenna switch and switchable 20dB attenuator. Covers 1.8-54MHz, adds 20dB gain and additional selectivity.
P-405 (9V) \$139⁹⁵ • P-408 (115V) \$149⁹⁵

PALOMAR PF-300 Audio Filter • Connects between receiver and headphones or speaker. Provides 16th order lowpass for SSB and 16th order bandpass for CW and digital. Broad (250Hz), Medium (100Hz) and Sharp (45Hz) selection, variable 300-3000Hz. 5W audio output, requires 13.8V DC **\$149⁹⁵**

PALOMAR VLF Converters
 Converts 10-500kHz to 80M band. Model VLF-A for Ham Band only, VLF-S for General Coverage receivers. Uses 9V battery. 2" x 4¼" x 5" **\$79⁹⁵**

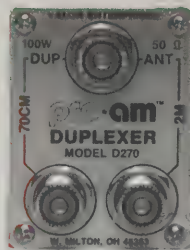


Forget the rest, shop the Best...that's AES®!
America's Number One, Second to None Amateur Radio Dealer.

pro-amTM

by **Valor**[®]

"The Clear Connection"



\$39⁹⁵

2m/70cm Duplexer

Model D-270 • Connects a VHF/UHF dual band antenna with a single feedline to separate 2m and 70 cm transceivers or a dual band transceiver without a built-in duplexer. Use in reverse for connecting separate antennas to a 2m/70cm dual band transceiver with only one RF output.

144/440 Dual Band Glass Mount Antenna

Model GM270

- 144-148 and 440-450MHz
- Gain: 2.6dB at 2m and 6.3 dB at 70cm
- Typical VSWR: less than 2.0:1 through the bands
- Maximum power: 50 Watts
- Field tunable
- 14 ft. RG-58 cable with PL-259 connector
- 26" whip—copper plated and black finished
- Instructions and Mounting Hardware Included

\$49⁹⁵

144/440 DUAL BAND Magnet Mount Antenna

Model PM-144-440BN

Dual band Antenna Kit: Includes 19 inch stainless steep whip, *powerful* 3 inch magnet mount base, 12 ft. of RG-58 coax cable and BNC connector.

Specifications	2 meter	UHF
MHZ Frequency	144-148	435-450
SWR	<2:1	2:1
Gain	Unity	2.1 dBi
Power, FM.....	150 watts	150 watts

\$29⁹⁵

144/440 DUAL Band Magnet Mount Antenna

Model MM-270B

- 144-148 and 440-450MHz • 1/4 wave length (2m) and 5/8 wave length (70 cm).
- Typical VSWR: less than 1.5:1 through the bands.
- Maximum power: 50W (2m), 25W (UHF)
- 1-1/8" diameter black ABS base with *strong* Rare Earth magnet
- Height: less than 20 in.
- Brass ferrule, black chrome finished
- 9 ft. RG-174 cable with BNC Connector
- Weight: 2 ounces

\$39⁹⁵

144/450 Dual Band RUBBER DUCK

Model 77-BNC

12 in. Flexible Rubber Duck Antenna with BNC Connector

Specifications	2 meter	UHF
MHZ Frequency	144-148	435-450
SWR	<2:1	2:1
Gain	Unity	2.1 dBi
Power (FM)	50 watts	50 watts

\$23⁹⁰

Low Cost 2 meter Magnet mount Antenna

Model VAA-002 • A 1/4 wavelength on 2 meters, but the stainless steel whip section can be easily trimmed for operation up to 450MHz. The *strong* magnet mount base with "no scratch" rubber boot for protection mounts almost anywhere on vehicle. Rated for 200 watts and comes ready-to-go with 12 ft. of RG-58 coaxial cable and PL-259 connector. **Model VAA-002BN** is the same but has a BNC-type connector for direct connection to handhelds, etc.

VAA-002
\$19⁹⁵

VAA-002BN
\$22⁹⁵

Maxi-Magnet Mount Kit

Model MM-3401

Strong! Includes three big 5" magnets on a heavy aluminum frame with 3/8" x 24-thread mount, 17 ft. RG-58 cable and PL-259 connector.

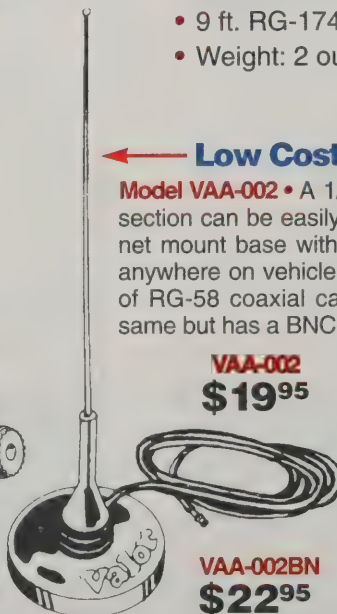
\$49⁹⁵

UHF/VHF SWR/Power Meter

Model PDC9

- RF Power: 0-50W and 0-60W
- Freq. Range: 140-170MHz
430-450MHz
- UHF female
- Size: 2 1/4" h x 2 1/2" w x 1 1/8" d

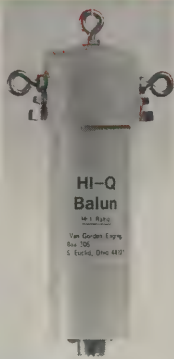
\$49⁹⁵



Van Gorden Engineering

HI-Q Balun • \$14⁹⁵

- 1:1 or 4:1 impedance ratio: For 50Ω unbalance coaxial cable to 50Ω balanced antennas.
- For dipoles, yagis, inverted vees and doublets.
- Covers 3-40MHz, full legal power
- Replaces center insulator
- Reduces feedline radiation for more power into antenna, and less TVI and BCI problems.
- Built-in DC ground reduces noise and protects against lightning.
- Weatherproof. SO-239 connector



HI-Q Antenna Center Insulator • \$6⁹⁵

- Replace egg center insulator
- NO internal balun
- Small, rugged, lightweight, weatherproof with SO-239 connector and convenient center support eye hook.



Van Gorden All-Bander Dipole Antenna

Covers 160-10M (requires antenna tuner with balanced output). 135 ft., or less as an inverted V or sloper; trim to fit small lots. #14 gauge stranded copper wire, center fed with 100 ft. of 450Ω balanced line. Center insulator with an eye hook and end insulators. 2KW PEP, assembled **\$29⁹⁵**

SHORTY All-Bander • Above, with coils - 70 ft. long **\$39⁹⁵**



Van Gorden Dipole Antennas

With Hi-Q Balun, #14 stranded antenna wire, insulators and 100 ft. of nylon support rope. Rated for full legal power, may be used as an inverted Vee. Available for 80/75m (130 ft.), 40/15m, (66 ft.), 20m (33 ft.), 15m, (22 ft.) and 10m (16 ft.). Shorty 80m (90 ft) and 40m (45 ft.) dipole models include appropriate traps as pictured **See Price List**



Van Gorden G5RV Multiband Antenna

Covers 3.5 to 30MHz, and also 1.8 MHz as a Marconi type antenna with a tuner and good ground. Consists of a 102 ft. flattop with a 31 ft. section of 300Ω KW twinlead, a transformer/coupler and 70 ft. of RG-8X mini-foam coaxial cable with SO-239 connector. Handles 2KW PEP, assembled .. **\$50⁰⁰**

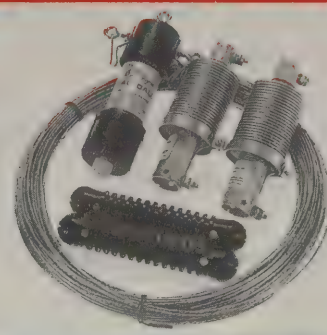
BENCHER

Model ZA-1A HF Balun • 1:1 ratio for 80-10 meter dipoles, vees, quads and yagis. Transforms 52Ω unbalanced coax transmission line to a balanced feed. Reduces feedline radiation which in turn increases efficiency and reduces TVI and BCI. Uses no ferrite core so it can accept a substantial mismatch at the legal power limit which allows use with antenna tuners. DC grounded for lightning protection. HWK hardware kit available for mounting to a 2" antenna boom **\$34⁹⁵**

YA-1 Low Pass Filter • Cure TVI caused by transmitted harmonics. For 1.8 to 29.7MHz, rated 1.5KW continuous or 5KW peak. ≥80dB attenuation at 54MHz. 2½" w x 9½" l x 2½" h, 2 lbs. **\$49⁹⁵**

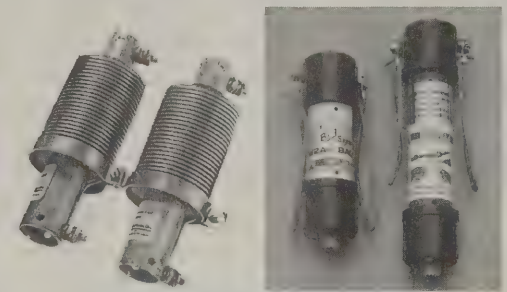


UNADILLA (W2AU)



W2AU/W2VS 5-Band Antenna Kit

Low SWR on 80 and 40 meters, resonant on 10, 15 and 20 meters. Includes 40 meter traps, W2AU 1:1 balun, end insulators, 120 ft. of #14 stranded copper wire, and assembly instructions. Approx. 110 ft. long, rated 2KW PEP **\$75⁰⁰**



REYCO W2VS Antenna Traps

(left): Add these traps to your dipole for multiband operation on two to six bands. For example: add the 40 meter pair (KW-40) and get 40 and 80 meter operation. For 10, 15, 20, 40, 80 and 160 meters, add all five pairs - 33 combinations!

Selecting Traps:

List the bands you want to cover, listing the highest frequency band first. You will need a pair of traps for each band except the one with the lowest frequency **See Price List**

W2AU Ferrite Baluns

(right): Provides a smooth transition from unbalanced coaxial transmission line to balanced antennas - dipoles, quads, yagis. Produces proper current distribution resulting in reduced feedline radiation for maximum power transfer, gain and reduced possibility of TVI and BCI. Replaces center insulator, DC grounded for lightning protection, has convenient center eye hook for support. Usable from 3- 40MHz and rated at 2KW PEP. Available in 1:1 or 4:1 ratios, or beam **\$21⁰⁰**

W2DU Non -Transformer Choke Baluns

High efficiency, 1:1 ratio. The HF model is the only one available that works on 160 meters! Handles VSWR up to 5:1 at legal limit, allowing use with antenna tuners. The VHF model eliminates the usual rod and tube hardware balun assembly normally used at those frequencies. **Models:** HF (1.8-30MHz), VHF (30-250MHz), HF Beam Balun (40-10 meters) **\$23⁰⁰**



MIRAGE

HF & VHF Wattmeters

- Reads Peak (SSB) or Average (CW) Power.
- Shows SWR direct without charts or graphs.
- Removable coupler.
- High quality meter.
- Easy to use. **\$189⁹⁵**
- 5-year Warranty.

Frequency Range:

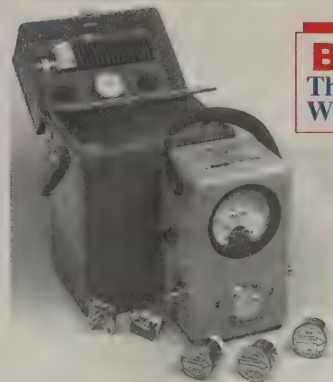
- MP-1 • HF Model Covers 1.8 to 30 MHz
- MP-2 • VHF Model Covers 50 to 200MHz

Power Ranges - accuracy ± 5%, ±1% meter:

- MP-1 25W, 200W & 2000 W
- MP-2 50W, 500W & 1500W

Power required to read SWR (MP-1 & MP-2) 1W to 2W
Functions... Peak or Average Forward/Reverse Power and SWR
Input and Output Impedance .. 50Ω coax, SO-239 connectors
Power Requirement..... 9V internal battery or ext. AC adapter
Size and Weight 5½" x 4½" x 5½", 3½ lbs

BIRD ThruLine® Wattmeters



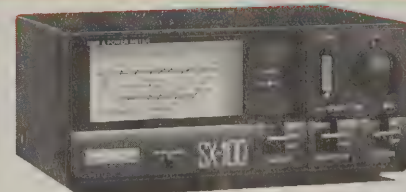
Carrying case, dummy load, elements and connectors **Optional**

BIRD 43 ThruLine® Wattmeter • Measures both forward and reflected CW power in 50Ω coaxial transmission lines. Low VSWR and insertion loss, ± 5% of full scale accuracy. Plug-in elements provide a wide choice of frequency ranges from 2 to 1000MHz and power levels from 1W to 5KW. Select one or more elements to suit your requirements. Comes with SO-239 connectors. **Optional** Quick-Change connectors for PL-259, Type-N and BNC. 6½" h x 5½" w x 3½" d, 3 lbs. **\$230⁰⁰**

Model 43P • Same as Model 43 but includes a circuit that allows very accurate measurement of Peak Power without affecting the CW measurement capabilities. Uses all of the standard plug-in elements. Requires (2) 9V batteries **\$345⁰⁰**

Model 4431 • Same as Model 43 but with convenient, built-in, variable RF signal sampler. Provides an RF signal sample (for use with counters, oscilloscopes, spectrum analyzers, etc.) at the same time a power measurement is made **\$405⁰⁰**

DIAMOND SWR/Power meters



SX-Series • Installs between transmitter and antenna for measurement of forward and reflected average (CW) and SSB (PEP) RF power, and SWR. Accuracy is ± 5 to 10% of full scale depending on frequency and power. Illuminated meter, sensor switch and LED indicator. Power ratings listed below are for intermittent operation. For continuous mode (CW, FM, etc.) maximum ratings vary with frequency and are listed in the instructions. All models have SO-239 connectors, except SX-1000 which has Type-N. SX-600 & SX-1000 are **dual band**. Requires 12V DC for displays. 6" w x 2½" h x 4" d, 2 lbs.

Model	Power	Range	Display	Price
SX-100	3KW	1.6-60MHz	30W/300W/3KW	\$149⁹⁵
SX-200	200W	1.8-200MHz	5W/20W/200W	119⁹⁵
SX-400	200W	140-525MHz	5W/20W/200W	139⁹⁵
SX-600	200W	1.0-160Mz + 140-525MHz	5W/20W/200W	229⁹⁵
SX-1000	200W	1.8-160MHz + 430-1300MHz	5W/20W/200W	259⁹⁵

YAESU SWR/Power meters



YAESU YS-60 SWR Power Meter • Monitors both average (CW) and peak (SSB) transmitter power output, and VSWR of antenna system. Covers 1.6-60MHz and measures up to 2KW with meter ranges of 20/200/2000W. SO-239 connectors. Requires external 12V DC for meter lamps and internal op amp circuits. 4½" w x 2½" h x 3½" d, 24 oz **\$124⁹⁵**

YAESU YS-500 SWR and Power Meter • Similar to YS-60 but covers 140 to 525MHz and measures up to 200W with meter ranges of 4/20/200W. - does not require 12V DC **\$106⁰⁰**





Full line of Accessories including: • Tower Motor Drives • 5' to 20' Antenna Masts • 20' Chromolly Masts • Thrust Bearings • Mast Raising Fixtures • Rotating bases • Coax arms • Limit Switch Packages

MA SERIES (CRANK-UP TUBULAR TOWERS)

Will handle 10 sq. ft. antennas at 50 MPH winds.

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bottom	BASE SIZE	AES PRICE
MA-40	40 ft.	21'6"	2	242	3" sq.	4 1/2"	2'x2'x4'	\$629
MA-550	55 ft.	22'1"	3	435	3" sq.	6"	1 1/2'x1 1/2'x1 1/2'	\$999
MA-550MDP*	55 ft.	22'1"	3	620	3" sq.	6"	3'x3'x5'	\$2618
MA-770	71 ft.	22'10"	4	645	3" sq.	8"	3'x3'x6'	\$2258
MA-770MDP*	71 ft.	22'10"	4	880	3" sq.	8"	3'x3'x5 1/2"	\$3572
MA-850MDP*	85 ft.	23'6"	5	1128	3" sq.	10"	4'x3'4'x6'	\$4814

Standard bases and eve mounts included with all towers (except MA-770, 770-MDP and 850 MDP) • MDP models complete with heavy-duty motor drive with positive pull down.

FREE STANDING CRANK-UP TOWERS

Will handle 18 sq. ft. antennas at 50 MPH winds.

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bottom	BASE SIZE	AES PRICE
TX-438	38 ft.	22'	2	355	12 1/2"	15"	3'x3'x5'	\$917
TX-455	55 ft.	22'	3	670	12 1/2"	18"	3'x3'x6 1/4"	\$1385
TX-472	72 ft.	22'8"	4	1040	12 1/2"	21 5/8"	4'x4'x7'	\$2276
TX-472MDP*	72 ft.	22'8"	4	1210	12 1/2"	21 5/8"	4'x4'x7'	\$3662
TX-489	89 ft.	23'4"	5	1590	12 1/2"	25 5/8"	4'x4'x8 1/8"	\$3959
TX-489MDPL*	89 ft.	23'4"	5	1800	12 1/2"	25 5/8"	4'x3'x8 1/8"	\$5939

*TX-472MDP includes heavy duty motor drive with positive pull down. TX-489MDPL comes with heavy duty motor drive with dual level wind and positive pull down. MDPL models include fully operational limit switch packages.

FREE STANDING HEAVY-DUTY CRANK-UP TOWERS

Will handle 30 sq. ft. antennas at 50 MPH winds.

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bottom	BASE SIZE	AES PRICE
HDX-538	38 ft.	21'6"	2	600	15"	18"	3'x3'x6 1/4'	\$1187
HDX-555	55 ft.	22'	3	870	15"	21 5/8"	4'x4'x6 1/2'	\$2078
HDX-572	72 ft.	22'8"	4	1420	15"	25 5/8"	4'x4'x8 1/8"	\$3563
HDX-572MDPL*	72 ft.	22'8"	4	1600	15"	25 5/8"	4'x4'x8 1/8"	\$5444
HDX-589MDPL*	89 ft.	23'8"	5	2440	15"	30 5/8"	5'x5'x8 1/2'	\$7127
HDX-689MDPL*	89 ft.	23'8"	5	3450	18"	37 1/8"	5'x5'x9 1/2'	\$15,299
HDX-5106MDPL*	106 ft.	24'8"	6	3700	15"	37 1/8"	5'x5'x9 1/2'	\$16,649

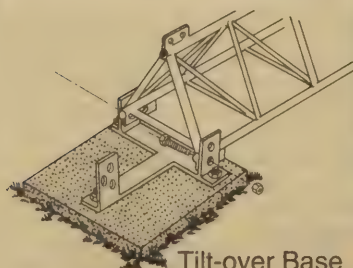
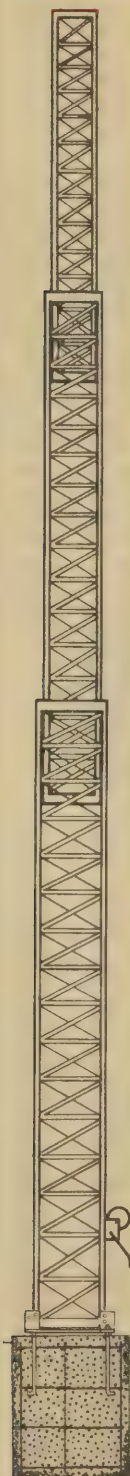
*Includes heavy-duty motor drives with dual level wind and positive pull down. MDLP models include fully operational limit switch packages. *HDX-689MDPL rated 60 sq. ft. of antenna at 50 mph winds. *HDX-5106MDPL rated at 35 sq. ft. of antenna at 50 mph winds.

FREE STANDING "Low Profile" COMPACT CRANK-UP TOWERS

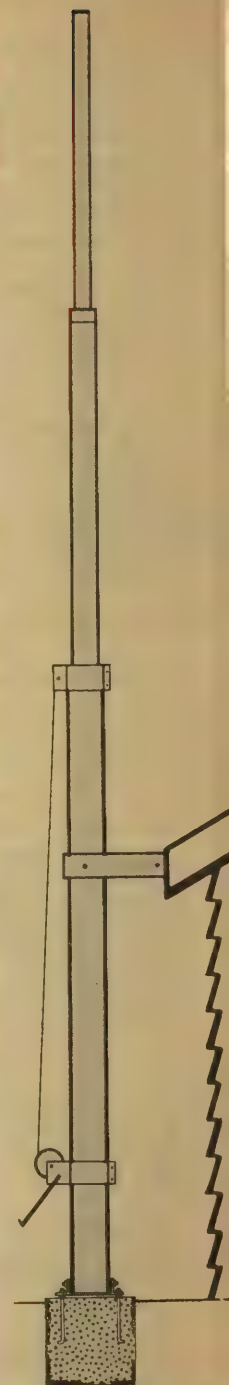
Will handle 18 sq. ft. antennas at 50 MPH winds. (TMM-443HD - 24 Sq. ft.)

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bot.	BASE SIZE	AES PRICE
TMM-433SS*	33 ft.	11'4"	4	315	10"	18"	3 1/4'x3'x6'	\$980
TM-433HD	33 ft.	11'4"	4	400	12 1/2"	20 7/8"	3'x3'x5 3/4'	\$1187
TMM-541SS	41 ft.	12'	5	430	10'	20 7/8"	3'x3'x5 1/3'	\$1286

You may obtain a detailed U.S. Tower Catalog by sending a request and \$1⁰⁰ to Amateur Electronic Supply • 5710 W. Good Hope Road. Milwaukee, WI 53223

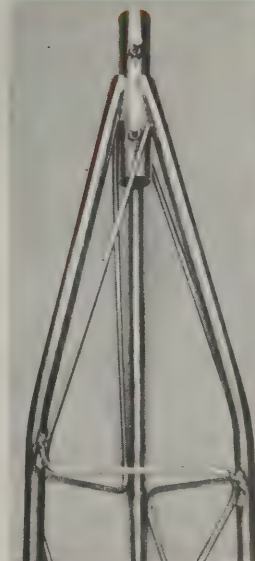


Tilt-over Base

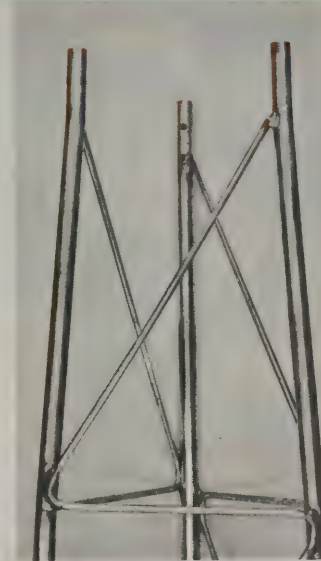


Complete list of accessories shown in the Price List

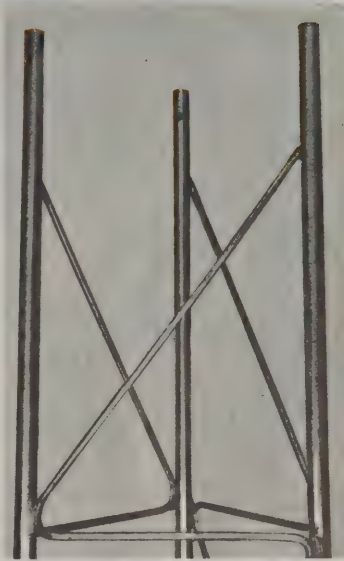
UNIVERSAL TOWERS



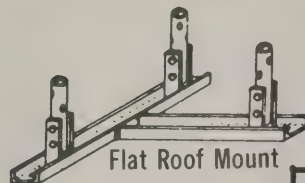
TOP SECTION



TAPER SECTION



STRAIGHT SECTION



Flat Roof Mount



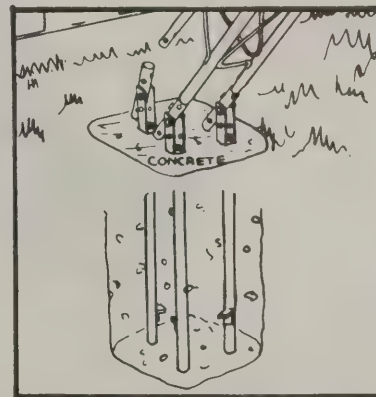
Rotor Plate



Thrust Bearing



Base Legs



Base Legs installed in concrete showing Hinge-Over feature.

Top Section with Thrust Bearing Plate

Here's a 50 ft. **UNIVERSAL Self-Supporting Aluminum Tower** installed at the QTH of Ted Willett W9NHE. This set up made a Big difference - he really gets out!

Before you buy a tower consider the advantages of Aluminum - it's Strong, Lightweight, Rust Free and easy to assemble and erect.

UNIVERSAL offers 10 ft. sections or complete towers ranging from 30 to 100 ft. with a choice of wind load ratings and accessories to meet your specific needs.

A listing and description of **UNIVERSAL TOWERS** is shown in the Price List. For more info fill out and mail the Coupon along with \$1.00 to receive their latest Catalog. →

To: **AMATEUR ELECTRONIC SUPPLY®**

5710 W. Good Hope Road
Milwaukee, WI 53223

Enclosed is \$1.00 . . please send me the latest
UNIVERSAL TOWERS Catalog.

Name _____

Ham Call (if any) _____

Address _____

City _____

State _____ Zip _____

Towers & Rotors...

ROHN

Heavy Duty or Extra Heavy Duty for HAM RADIO applications

Rugged, all Steel Construction • "X" Brace for greater strength • Galvanized finish for long life • Tower can be fully assembled on the ground and hinged up, or built vertically, section by section • Load is rated for Free Standing, no guy wires* • Supplied with Base Stubs for concrete mounting, and Rotator Plate.

Model	Ht.	Windload	Weight
HBX-40	40 ft.	10 sq. ft.	228 lbs
HBX-48	48 ft.	10 sq. ft.	303 lbs
HBX-56	56 ft.	10 sq. ft.	385 lbs
HDBX-40	40 ft.	18 sq. ft.	281 lbs
HDBX-48	48 ft.	18 sq. ft.	363 lbs

See Price List

*IMPORTANT: ROHN states that "antennas developing a large twisting moment due to wind must not be used on these towers". Antennas should be limited to those having a maximum boom length of not more than 10 ft.

U.S. TOWERS

A large selection of Self-Supporting Crank-up towers for almost any height and strength requirement. Three compact models . . TMM-series), six standard models . . TX-series, and five heavy-duty models . . HDX-series) Also, seven tubular crank-up models . . MA-series . Plus, a full complement of accessories for various installations

See Price List

UNIVERSAL

UNIVERSAL Model 18-50

50 ft.

self-supporting aluminum tower shown installed at the QTH of W9NHE in Milwaukee Wisconsin



FREE STANDING ALUMINUM TOWERS

LIGHTWEIGHT • RUST FREE
EASY TO ASSEMBLE & INSTALL
RUGGED • HAM RADIO, TV/FM

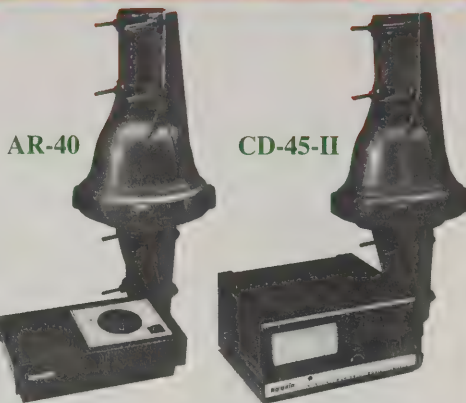
Configurations available from 30-100 ft. with various wind load selections to meet almost any application. Self-Supporting – no need for unsightly guy wires at rated load.

See Price List

Recommended Rotor Control Cable:

BELDEN 8484 • 4-wire See BELDEN
BELDEN 8448 • 8-wire in the Price List
BELDEN 9405 • 8-wire (HD for big rotors, long runs)

HY-GAIN Rotors



AR-40 (lightweight) • For large TV/FM and smaller Ham Antennas up to 3.0 sq. ft. windload area when mounted in-tower, or 1.5 sq. ft. mast mounted with supplied lower support bracket. Rotor unit: 17 1/2" h x 8" diameter, 12 ball bearings (two races), disc brake, mast sizes up to 2 1/2" diameter. Automatic, silent control box – just dial and touch for desired direction. Uses 5-wire control cable. 14 lbs(305) \$199⁹⁵

CD-45-II (medium duty) • For antennas with up to 8.5 sq. ft. windload area when mounted in-tower, or 5 sq. ft. when mast mounted with supplied lower support bracket. Rotor unit: 17 1/2" h x 8" diameter, 48 ball bearings (two races), disc brake, mast sizes up to 2 1/2" diameter. Illuminated directional indicator, separate snap action brake and rotation switches. Meter face may be reversed for north or south center scale, as desired. Uses 8-wire control cable. 20 lbs(302) \$279⁹⁵



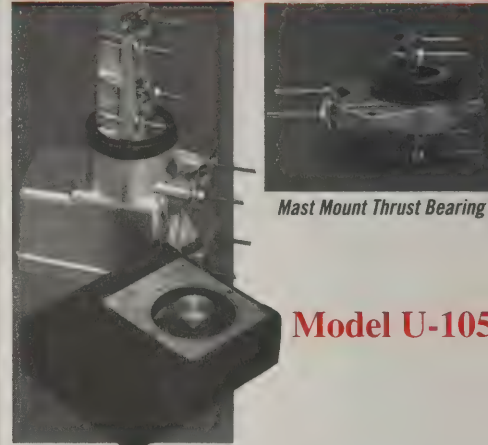
HAM IV (Heavy Duty) • For medium-sized antenna arrays with a windload area up to 15 sq. ft. when mounted in-tower, or 7.5 sq. ft. when mast mounted with optional lower support bracket. Rotor unit: 13 1/2" h x 8" diameter, 98 ball bearings (two races), electric locking steel wedge brake. Mast sizes up to 2 1/2" diameter. Illuminated indicator, separate snap action brake and rotation switches, north or south center scale – in unit. Use 8-wire control cable. 24 lbs(304) \$369⁹⁵

T'X Tailtwister (EXTRA HEAVY DUTY) • For larger antenna arrays with a windload area up to 20 sq. ft. when mounted in-tower, or 10 sq. ft. when mast mounted with optional lower support bracket. Rotor unit: Extra rugged casting – 14 1/2" h x 9 1/2" diameter, 138 ball bearings (3 races), electric locking steel wedge brake. Mast sizes up to 2 1/2" diameter. Illuminated directional indicator, separate snap action brake and rotation control switches, north or south center scale – in unit. Use 8-wire control cable. 28 lbs(303) \$429⁹⁵



HDR-300 (Deluxe Extra Heavy-Duty) • For large antenna arrays up to 25 sq. ft. windload (in-tower mount only). Rotor: 7" x 9" x 10" h, 138 ball bearings (3 races), solenoid operated locking brake. Masts up to 3" in dia. Digital directional indicator accurate to 1°. Separate brake and rotation controls. Requires 8-wire cable. 55 lbs(300) \$949⁹⁵

PHILLIPS ECG Rotor



Mast Mount Thrust Bearing

Model U-105

Model U-105 • Features a one-piece cast aluminum housing designed for greatest strength in high stress areas. Uses precision cut, hardened steel gears, large bearing surfaces and reinforced mast support for lateral loads, and ball bearing for thrust (vertical load). Easily handles small VHF/UHF amateur and TV/FM arrays. Water tight, fully lubricated drive train. Control unit is smooth and quiet, and is synchronized with the drive unit by synchronous motors. Provides a full 360° rotation with mechanical stop in 70 seconds. Full 8 ft/lbs of torque; 100 lbs. vertical load capacity; 1 1/2" support mast size. Control size: 7" w x 5 1/2" d x 2 3/4" h. Optional Thrust Bearing mounts on mast, above rotor for extra support. Weight: 9 lbs, 8 oz. \$69⁹⁵

TB-105 • Thrust Bearing for U-105 Weight: 1 1/2 lbs \$18⁹⁵

Special YAESU Rotors



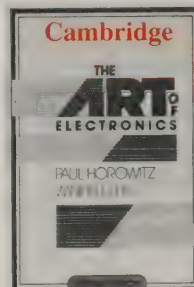
YAESU G-5400B Combination Elevation/Azimuth Rotor (left) Satellite, moonbounce and other space communications work where both horizontal and vertical rotation of the antenna is required in a single unit. Full 180° rotation. Elevation rotation time: 58 seconds; 360°. Azimuth rotation time: 50 seconds. Handles 440 lbs of vertical load and mast diameters from 2" to 2 1/2" Control box has large dual meters which show separate azimuth and elevation indication with a ±4% aiming accuracy. Uses 8 wire control cable CALL

YAESU G-500A Elevation Rotor (right) • Satellites, Moonbounce! 180° elevation rotation takes 60 seconds, large meter – aiming accuracy ±3%. Accepts boom diameters 1 1/2" to 1 3/4". Uses 8-wire control cable CALL

See pages 80 & 81 for more
YAESU Rotors

The ART of Electronics

A single authoritative text and reference on electronic analog and digital circuit design. Emphasizes methods actually used by circuit designers—a combination of some basis laws, rules of thumb, and a large bag of tricks. The largely nonmathematical treatment encourages circuit intuition, brainstorming, & simplified calculations of circuit values & performance. 7" x 10" 1120 pages \$59⁹⁵

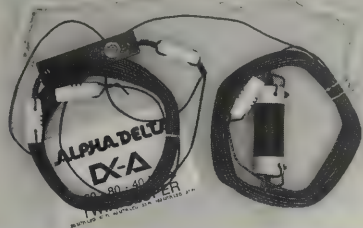


Alpha Delta problem solvers . . .

Limited Space High Performance Antennas

STAINLESS STEEL HARDWARE • FULLY ASSEMBLED • SEVERE WEATHER RATED COMPONENTS • NO-TRAP DESIGN

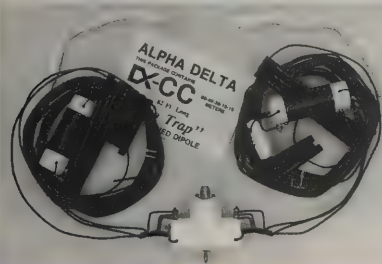
Unlike trap antennas, there are no capacitors to break down under high RF voltages. Full legal power operation – uses "ISO-RES" inductors and 12 ga. insulated solid copper wire. 50 Ω direct coax feed – tuners usually not required when operating in resonant bands, but may be safely used for multi-band operation if desired.



DX-A/DX-SWL Configuration

MODEL DX-A • 160-80-40 Meter 1/4-Wave Twin Sloper. A top low frequency DX antenna. Combines the tremendous DX firepower of the 1/4-wave sloper with the wide bandwidth of the 1/2-wave dipole. One leg is 67', the other 55' – installs like an inverted-V. with ground return thru tower or down-lead. **\$59⁹⁵**

Model DX-SWL • SWL Broadcast Sloper Covers 13, 16, 18, 19, 21, 25, 31, 41, 49, 60, 90, and 120 meter short-wave plus AM broadcast bands. Sloper design provides outstanding reception of low-angle DX signals. Multi-band transmit capability with an appropriate antenna tuner – up to 2KW. Overall length 60 ft. **\$69⁹⁵**



DX-CC Configuration

MODEL DX-CC • "No-Trap" 80-40-20-15-10 meter Dipole or Inverted-V. Length - 82 ft. **\$99⁹⁵**

MODEL DX-DD • "No-Trap" 80-40 meter Dipole or Inverted-V. Length - 82 ft. **\$79⁹⁵**

MODEL DX-EE • "No-Trap" 40-20-15-10 meter Dipole or Inverted V. Will also cover 30-17-12 meters with a tuner. Length - 40 ft. **\$89⁹⁵**

Transi-Trap® Surge Protectors



Alpha Delta Transi-Trap Surge Protectors are gas surge arresters which will protect your valuable ham equipment much more effectively than the lower cost air-gap types.

The heart of the unit is the **Arc-Plug™**, which consists of two electrodes hermetically sealed in a gas filled ceramic cylinder. It acts like a voltage dependent switch that can repeatedly carry large currents for brief periods of time. When a voltage surge occurs on your transmission line, an arc forms between the electrodes allowing it to conduct harmlessly to an independent ground connection, reducing feedline voltage to less than 30 volts. That's protection!

An Arc-Plug can discharge 1000's of normal surges without replacement, and the life of the device is a function of the surge current amplitude and duration. After a sufficient number of discharges there is a gradual lowering of the breakdown voltage and insulation resistance. Replacement indicated by an increase in VSWR. If a unit is "hit" with a big strike, it is designed to fail "shorted", giving an instant indication that replacement is needed. Other brands fail "open", which leaves your expensive equipment unprotected without you knowing it.

Highest quality, finest materials. – heavy cast aluminum housing, brass constant-impedance (50 Ω) element, brass ground hardware and only Amphenol connectors are used.

Standard Transi-Trap units are the choice of the U.S. Military, many government agencies, worldwide. The design is based on the U.S. NCS TIB85-10 Bulletin covering lightning and EMP (electromagnetic pulse) protection.

Transi-Trap Protectors are designed for 50 Ω coaxial cable and are available with standard SO-239 connectors or N-type connectors which extend operation through 1 GHz.

Five different models to choose from . . .

MODEL RT • 200W thru 500 MHz **\$32⁹⁵**

MODEL RT/N • 200W thru 1GHz **\$39⁹⁵**

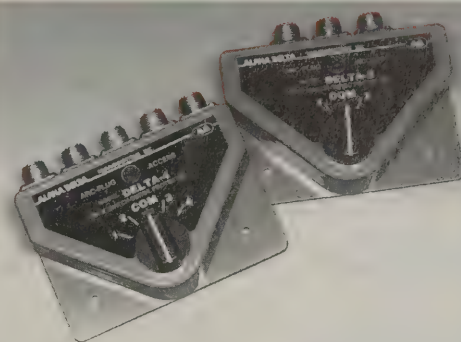
MODEL HV • 2KW thru 500 MHz **\$35⁹⁵**

MODEL HV/N • 2KW thru 1GHz **\$42⁹⁵**

MODEL LT • "T"-type, 200W thru 30 MHz. **\$22⁹⁵**



Lightning Surge Protected 2 & 4 Position Coax Switches



Alpha Delta Coaxial Antenna Switches are made only in the U.S.A. The extremely high quality custom design features a cast housing with a constant impedance micro-strip cavity for outstanding performance through UHF. No lossy wafer switches are used, and a solid positive detent roller bearing switch drive leaves no doubt to which position is selected. The unused antenna circuits are automatically grounded to reduce antenna interaction, noise and the effects of lightning. For the antenna circuit that is in use, the famous replaceable **Alpha Delta Arc-Plug™** Cartridge provides continuous protection. Antenna switched in or out, you're well protected both ways! The Arc Plug is easily accessed through front panel so you may permanently mount the switch to any surface. Both the two and four position models handle full legal amateur power.

Four different models to choose from . . .

DELTA-2 • 2-position switch with SO-239 connectors, good to 500MHz. **\$49⁹⁵**

DELTA-2/N • 2-position switch with N-type connectors, good to 1.3 GHz **\$64⁹⁵**

DELTA-4 • 4-position switch with SO-239 connectors, good to 500MHz. **\$74⁹⁵**

DELTA-4/N • 4-position switch with N-type connectors, good to 1.3 GHz **\$89⁹⁵**


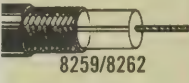


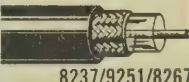
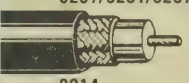
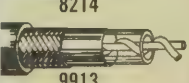
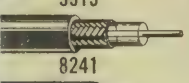


Limited Space Low Band DX Sloper

Model DX-B • A single wire high performance 1/4-wave DX sloper antenna for 160, 80, 40, and 30 meters. Designed for limited space installations where room doesn't allow for the Model DX-A twin sloper. Requires only 60 ft. overall and provides amazing DX performance at installation heights of only 35 ft., and with the low end at only 8 ft. This permits operation on those low bands for those hams previously not able to join in on the fun because of space limitations. It's pre-assembled and pre-tuned. Just put it up and start enjoying low band operation. Utilizes stainless-steel hardware, 12 gauge solid copper wire and efficient Alpha Delta "Iso-Res" RF choke coils. To gain the same broadbanded performance like the DX-A, the DX-B is also designed to be used with a wide range antenna tuner, so no trimming or tweaking is necessary. 50 Ω coax feed, rated for full legal power operation **\$69⁹⁵**

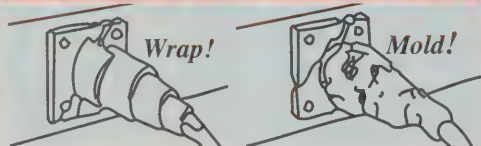
ALPHA DELTA COMMUNICATIONS, INC.



BELDEN Coaxial Cable

	Belden number	RG- type	Dia. (in.)	Center conductor	Insulation type	Shield coverage	Jacket type	Imp. (Ω)	Vel. factor	Loss/100' 100 MHz
	9201	58/U	.193	#20 solid copper	Solid polyethylene	78% bare copper	PVC	53	66%	4.5 dB
	8240	58/U	.193	#20 stranded tinned cop.	Solid polyethylene	95% tinned copper	PVC	53.5	66%	4.5 dB
	8259	58A/U	.193	#20 stranded tinned cop.	Solid polyethylene	96% tinned copper	PVC	50	66%	4.9 dB
	8219	58C/U	.193	#20 stranded tinned cop.	Cellular polyethylene	96% tinned copper	PVC	50	78%	4.5 dB
	8262	58/CU	.193	#20 stranded tinned cop.	Solid polyethylene	95% tinned copper	Non-contam. PVC	50	66%	4.9 dB
	9258	8/X	.242	#16 stranded copper	Cellular polyethylene	95% bare copper	PVC	50	78%	3.7 dB
	8237	8/U	.405	#13 stranded copper	Solid polyethylene	97% bare copper	PVC	52	66%	2.2 dB
	8214	8/U	.405	#11 stranded copper	Cellular polyethylene	97% bare copper	PVC	50	78%	1.8 dB
	9913	8/U	.405	#9 1/2 solid copper	Semi-solid polyethylene	100% foil + 88% braid	PVC	50	84%	1.4 dB
	9251	8A/U	.405	#13 stranded copper	Solid polyethylene	97% bare copper	Non-contam. PVC	52	66%	2.2 dB
	8267	213/U	.405	#13 stranded copper	Solid polyethylene	97% bare copper	Non-contam. PVC	50	66%	2.2 dB
	8241	59/U	.240	#22 solid copper	Solid polyethylene	95% bare copper	PVC	73	66%	3.4 dB
	8238	11/U	.405	#18 stranded tinned cop.	Solid polyethylene	97% bare copper	PVC	75	66%	2.0 dB
	8213	11/U	.405	#14 solid copper	Cellular polyethylene	95% bare copper	PVC	75	78%	1.5 dB

Coax Seal™ Hand Moldable Plastic

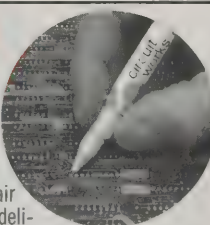


Effectively seals all types of coaxial fittings; baluns; antenna parts and connectors of any shape — adheres to vinyl and poly vinyl coax outer jackets. Simply wrap it on like regular tape, then mold it to shape. It stays flexible and sealed at any temperature for years to resist moisture penetration and deterioration. Permanent flexibility makes it possible to remove and re-install fittings, then re-seal them by simply re-forming the same material. Non-toxic, non-contaminating, non conductive. Roll, 1/2" wide x 60" long (#104). \$2⁴⁹

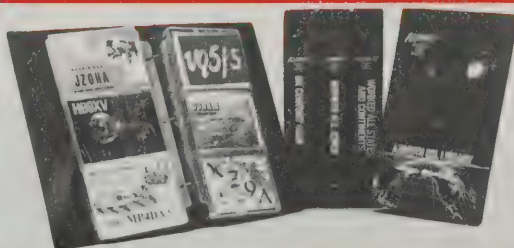
Circuit Works Conductive Pen

For Printed Circuit Boards

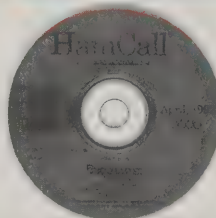
The Circuit Works Conductive Pen features a specially formulated silver thermoplastic designed to link circuit board components, repair traces, make jumpers and shield delicate electronics. Air dries in 3-5 minutes at room temperature and achieves maximum conductivity after 20 minutes. Can be heat cured in 1-2 minutes at 250-300°F. May be soldered at 350°F for <5 seconds after heat cure by using a low temperature tin, lead or silver solder with flux for best results. Traces 1/32" & wider — enough for 100 ft. \$10⁹⁵



AZIMUTH Awards QSL Library



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HamCall • CD-ROM disk contains nearly 550,000 U.S. HAMS and nearly 250,000 International Listings. Clubs, Military and RACES listings (nearly 2400), 100,000 U.S. calls cross references from old calls to new. Shows call sign, name, address, license class, expiration date and birth year. Includes over 15,000 public domain programs and various data files. For Apple Mac and IBM PC compatible computers \$50⁰⁰



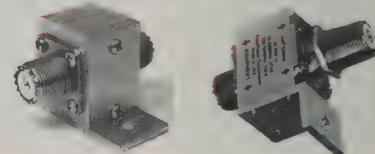
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See Price List

PolyPhaser CORPORATION

Lightning Protection



BROADBAND HF/VHF/UHF COAXIAL PROTECTORS

Multi-strike capability with low strike throughput energy. Aluminum enclosure. VSWR: ≤1.1 over frequency range.

FLANGE MOUNT (left)

IS-50UX-C0 • Frequency Range: 1.5MHz to 400MHz. Maximum Power: HF 2kW, VHF 375W, UHF 125W \$52⁹⁵

IC-50UX-C1 • Frequency Range: 50MHz to 700MHz. Maximum Power: VHF 375W, UHF 125W \$52⁹⁵

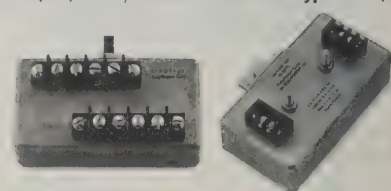
IC-50NX-C2 • Range: 125MHz to 1000MHz. Max. Power: VHF 375W, UHF (low) 125W, 800MHz -1 GHz 50W. Type N .. \$52⁹⁵

BULKHEAD MOUNT (right)

IS-B50LU-C0 • Frequency Range: 1.5MHz to 400MHz. Maximum Power: HF 2kW, VHF 375W, UHF 125W \$59⁹⁵

IS-B50LU-C1 • Frequency Range: 50MHz to 700MHz. Maximum Power: VHF 375W, UHF 125W \$59⁹⁵

IS-B50LN-C2 • Range: 125MHz - 1000MHz. Max. Power: VHF 375W, UHF (low) 125W, 800MHz-1 GHz 50W. Type N \$59⁹⁵

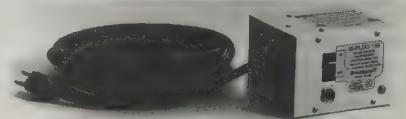


ROTOR CONTROL 8-LINE PROTECTOR (left)

IS-RCT • Provides protection for rotor controllers, motors, control box and other nearby equipment. EMP rated - faster than gas tubes with lower turn-on voltage. Water tight enclosure with mounting stud. 7 1/2" h x 3 3/4" w x 2 1/2" d \$46⁹⁵

IN-LINE PHONE LINE PROTECTOR (right)

Model IS-SPTL • Multi-stage protection, with large bandwidth and fast response time, EMP rated. For telephone trunk lines - handles standard ring voltages to 105Vrms. Handles surges up to 26 or 40kA without damaging let through voltages. Shielded metal enclosure. 1 3/4" h x 4 1/4" w x 3 3/4" d .. \$57⁹⁵



POWER LINE EXTENSION PROTECTOR

In-line, multi-stage EMP rated protectors provide multi-strike power line protection, filtering and proper grounding when equipment use requires an extension cord. Two outlets, master on/off switch, circuit breaker for added protection. All aluminum grounded enclosure, 4 1/4" wide. 120V AC.

IS-PLD0-120-15A • with 15' cord, 120VAC @ 15A \$143⁹⁵

IS-PLD0-120-20A • with 6' cord, 120V AC @ 20A \$179⁹⁵

COPPER AND ALUMINUM GROUNDING PANELS

Aluminum or copper plate .062" panels mounted on painted off-white 1/2" plywood backing. Used to mount/ground protectors and to establish a single point location for grounding equipment racks/chassis.

Mounts on 16" on center, comes with (4) concrete anchors, (10) mounting screws, 10 ft. of 1-1/2" copper grounding strap (2) brass sandwich plates and joint compound. 18" w x 12" h.

AL-SPGP • Aluminum single point ground panel \$52⁹⁵

CU-SPGP • Copper single point ground panel 52⁹⁵

LOW INDUCTANCE COPPER INTERCONNECT STRAP

Copper strap has an advantage over wire when used for a ground path because will have lower inductance and cannot be fused open by lightning. For example: 1.5" strap has a lower inductance than #2.0 stranded wire. Easy to work with (cut, solder, etc.) - 6 AWG thickness (.0159"). Useable above or in-ground applications. Sold by the foot up to 450' lengths.

1.5" wide 95¢/ft. • 3" wide \$2⁷⁵/ft. • 6" wide \$3⁹⁵/ft.



B&K 390 Test Bench™ (left) • A multi-function multimeter. with AC/DC Voltmeter, AC/DC Ammeter, Ohmmeter, Capacitance Meter, 500kHz Frequency Counter and Temperature meter in one package. 0.1% DCV accuracy; Analog bargraph; Auto/manual ranging; 4,000 count LCD display; Relative mode; Min-max average; Memory; Audible continuity; Data hold. 7½" x 3½" x 1½", 17 oz. **\$134⁹⁵**

B&K 2860 Digital Multimeter (Center) • Rugged construction with water resistant case. AC/DC Voltmeter; AC/DC Ammeter (20A range); Ohmmeter; Audible Continuity Check; Diode Test. 3½ digit, 0.8" LCD readout. 6½" x 3½" x 1¼", 12 oz. **\$84⁹⁵**

B&K 2704A Digital Multimeter (right) • Handy for the tool kit! Measures: DCV 200mV-1000V; ACV 200mV-750V; DC and AC current to 10A; Resistance, 0.1Ω to 20MΩ; Capacitance to 20uF; and Transistor gain (uFE). 5¼" x 3" x 1¼", 13 oz. . **\$49⁹⁵**



B&K 878 Dual-Display LCR Meter with Statistical Functions Excellent for sorting parts. Simultaneously displays measured value and Q or dissipation factor and remembers minimum and maximum values while keeping a running average of tested component values. *Relative mode* displays difference between the measured and reference component values. *Tolerance mode* "beeps" to indicate measured components outside a 1%, 5% or 10% tolerance around a reference value. Selectable, 120Hz or 1kHz. 1½" x 3½" x 7½", 14 oz. **\$229⁹⁵**

B&K 815 Parts Tester (center) • Tests transistors, SCRs, diodes, LEDs and batteries under actual load conditions. Capacitance 0.1pF-20mF; Resistance 0.1Ω-20MΩ, 26 ranges. Big 0.8" LCD display. 6½" x 3½" x 1¼", 12 oz. . **\$96⁹⁵**

B&K 3011B 2MHz Function Generator (right) • Generates sine, triangle, square, pulse and ramp waveforms. TTL and CMOS Pulse outputs. 9¼" x 3¼" x 11¼", 6 lbs. **\$226⁹⁵**



General Purpose Power Supplies

Lab Quality — reverse polarity, overload thermal and short circuit protected. Tight regulation, low ripple and conservatively rated for continuous operation at maximum rating.

Model 1686 High Current (left) • Output: 3 to 14VDC @ 2.5 to 12A. Rated for continuous 12A duty at 13.8V DC without over-heat. Reverse polarity, overload and short circuit protection. Current limiting. Connect two in parallel to double the current, or two in series to double the voltage. Coarse and fine voltage adjust and current limit. 5½" x 5¼" x 12", 12 lbs. **\$169⁹⁵**

Model 1651 Triple Output (right) • Output: Two 0 to 24 VDC @ 0.5A; One fixed 5V @ 4A, continuous. Independent tracking, adjustable current limiting. Short circuit, overload and reverse polarity protection. 3¼" x 9¼" x 7½", 11 lbs. **\$359⁹⁵**



Scopes and Counters For design, service or hobby. Scopes ranging from a 20MHz analog dual-trace unit to a versatile digital storage model. Multi-function counters built for continued high accuracy over a wide range of frequencies and conditions.

See the Price List for the complete B&K listing

DIGIMAX Frequency Counters



See Price List

DigiMax D-1200/D-612 Frequency Counters (left) • Ideal for solving difficult bench and field problems involving complex PLL, TV Tuner, VTR, and computer circuits. — plus, they can help to keep your QSOs on the correct frequency! Both models meet all FCC land mobile, broadcast, and telecommunications requirements. 9 digit LED, 0.5" seven segment display, leading zero suppression for error-free readings. Built-in 10 MHz, 0.1 PPM (20°-40°C) 10MHz proportional oven. When checking audio frequency tones, the built in audio multiplier in the D-1200 will resolve 1/1000th Hz in 10 sec., 1/100Hz in 1 sec., and 1/10 Hz in 0.1 sec. The D-612 resolves 1 Hz in 1 sec. and 1/10 Hz in 10 sec. except when using the *optional* AM-12 audio multiplier, then the resolution is the same as the D-1200. The D-1200 also has a prescale input sensitivity control — and the D-612/D-1200 include a 1.2 GHz prescaler. Both operate from external 8-14.5VDC @ 200-500ma., internal 6 "C" cell battery pack, 115V with *optional* AC-12 adapter or *optional* BAC-12 rechargeable battery pack. 3¼" h x 8½" w x 9" d. • D-612 does not include carrying handle.

DigiMax D-500/D-510A Frequency Counters (center) • Excellent accuracy and high reliability, make these units the perfect choice for the bench, tool box, or ham shack. The D-500 covers 50Hz to 512MHz and will resolve 1 Hz to 50 MHz and 10 Hz to 500 MHz; the D510A covers 50 Hz to 1 GHz. and will resolve 10 Hz to 1 GHz. 8 digit LED, 0.5" high seven segment display, leading zero suppression for error-free readings. Contains a 1 PPM (17° to 35°C) TXCO time base. Operates from external 8-14.5V DC @ 100-250ma., 115V with *optional* AC-12 adapter or *optional* BAC-5 rechargeable battery pack. 1½" h x 5" w x 5¼" d.

Optional Accessories • AC-12 9V DC Adapter; AM-12 10X/100X Audio Multiplier; AM-500X 10X/100X Audio Multiplier B-12 Dry Cell Holder, switch for D-612; BAC-12 Nicad battery Pack for D-612/D-1200; BAC-5 Nicad Battery for D-500/D-510; RF-500X 250W In-line RF Sampler; T-1200 21" BNC Telescopic Antenna

K-COM Telephone RF Interference Filters



Stops telephone RFI caused by 3-30MHz transmitters! ..

Cure phone RFI in the most irritating cases even when dealing with full legal limit power output. Use any number of filters with no adverse effect on telephone performance. Fully assembled, with complete installation instructions.

Model RF-1 Single-line • For single line equipment including wired and cordless telephones, answering and fax machines, modems. RJ-11 modular connectors **\$16⁹⁵**

Model RF-1 Two-line • The correct filter for two-line telephone sets. Standard use or with multi-line electronic key phone systems typically found in businesses **\$22⁹⁵**

Model RF-1 Coiled-cord • Recommended when RFI enters through the coiled telephone cord **\$22⁹⁵**

Model RF-2 Hard-wired • Provides a wide range of installation options to add RFI rejection at a variety of physical and electrical locations in the system wiring; inside phone jacks, behind wall mounted telephones, etc **\$10⁹⁵**

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**Made
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WARRANTY

5 YEARS all parts
1 YEAR labor
ALL MODELS

HP-400
Band Pass Filter

FIND FREQUENCIES FAST

With the new, high sensitivity, ultra-fast, Auto Trigger & Hold **STARTEK** frequency counters. Increase readability distance with the new Band Pass Filters. All products made in USA.

AUTO TRIGGER & HOLD

Now, for the first time, available on inexpensive, portable counters with our new **ATH™** Series. This feature is the most significant improvement ever made to the pocket sized counters! It allows "Hands Free" operation to automatically read & hold a signal as quick as 80ms or 8% of a second.

New ATH™ Series

Say goodbye to random counting & false readings with the **ATH™** Series

TA-90 Antenna
(priced separately)

Introducing
**NEW
ATH-50**

ATH-15
1-1500 MHZ

ATH-30
1-2800 MHZ
One-Shot Feature

ATH-50
5 Hz to 2800 MHZ
One-Shot Feature

Size 4" h x
3.5" w x 1.5" d
Aluminum
Cabinets
(No Self Tap
Screens)

Ultra Bright
Display

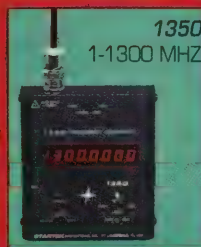
Signal
Strength
Bar Graph
Works
on Every
Range

Low
Battery
Indicator

ATH™ SERIES FEATURES:

- Easy to use - simple controls
- Ultra fast response time
- Extra BRIGHT LED digits
- 3-5 hour battery operation
- Automatic clean dropout
- Maximized sensitivity, <1mV typical
- Signal strength Bar Graph
- 2 ranges - 6 fast gate times
- 9-12V auto-polarity power jack
- StarCab™ aluminum cabinet

**Ni-Cads
and A/C Charger
INCLUDED
with ALL Models**



See Price List or call any AES store for special pricing.

ATH, Ultra High Sensitivity Frequency Counters		List Price
ATH-15	1-1500 MHZ, High speed	Call 29
ATH-30	1-2800 MHZ, High speed, one shot	Call 29
ATH-50	5 Hz to 2800 MHZ, one shot	Call 33
HST-15	Optional 0.2 PPM TCXO High Accuracy Timebase Preset	Call 12

Economy Frequency Counter

1350	1-1300 MHZ, 10 HZ Res.	Call 12
	3 gate times, Hold switch	

Additional models available. Call or see Price List

Band Pass Filters

Increase range or distance from a transmitter with a Band Pass Filter. <1 dB pass band insertion loss.

LP-60	DC-60 MHZ Usage	\$6
HP-400	400-1500 MHZ Usage	6
HP-800	800-2000 MHZ Usage	6

Accessories

A	CC-90	Cable for all models	1
B	TA-90	Telescope BNC antenna	1
C	TA-90-L	Telescope elbow antenna	1
D	RD-150	150 MHZ rubber duck	1
E	RD-2750	27-50 MHZ rubber duck	2
F	RD-800	800 MHZ rubber duck	2
G	M-207-IC	Interface cable for MFJ-207	1
H	P-110	200 MHZ, 1x, 10x probe	3
J	LP-22	Lo-Pass audio usage probe	2
K	DC-10	Direct, 50 OHM probe	2

Call any AES Store
for Special Prices and Ordering
Call the **STARTEK** Help Line for
technical questions or model selection:
305-537-5577

STARTEK INTERNATIONAL INC.

398 NE 38th St., Ft. Lauderdale, FL 33334

See Price List
and Index for
other MFJ
models ..



MFJ-16010 Random Wire Tuner (top) • Covers 1.8-30 MHz and handles 200W PEP. Lets you operate all bands anywhere — apartment, motel, camping, etc. with any transceiver using a random length of wire. Ultra small — 2" w x 3" h x 4" d **\$39⁹⁵**

MFJ-901B Versa Tuner • Covers 1.8-30 MHz continuously and handles 200W PEP. Matches coax, random wires and balanced lines (built-in 4:1 balun). Very popular for use between a transceiver and a final amplifier for proper matching and full drive, or as a mobile tuner. The *smallest* Versa Tuner — 5" w x 2" h x 6" d **\$59⁹⁵**

MFJ-945D Mobile Tuner • Covers 1.8-30 MHz and handles 300W PEP. Extends mobile antenna bandwidth — eliminates having to frequently stop and adjust whip. when making frequency changes. Matches coax only. Built-in cross-needle SWR bridge and wattmeter with 50/300 and 5/30W ranges. 8" w x 2" h x 6" d **\$84⁹⁵**

MFJ-941E Versa Tuner II • Covers 1.8-30 MHz and handles 300W PEP. Matches everything — coax fed dipoles, vees, whips, verticals, beams, random wires and balanced lines (built-in 4:1 balun). Lighted Cross-Needle SWR/Power meter with 300/50W and 30/5W ranges. Eight position antenna switch selects 2 coax lines (direct or thru tuner), random wire/balanced line or external dummy load. 10" w x 2 1/2" h x 7" d **\$99⁹⁵**

MFJ-948 Deluxe Tuner • Covers 1.8-30 MHz and handles 300W PEP. Has all features of MFJ-941D plus it has a larger lighted peak reading Cross-Needle SWR/Power meter with 300/50W & 30/5W ranges and lamp switch **\$119⁹⁵**

MFJ-949E Deluxe Versa Tuner II • Same power, tuning and switching capability as MFJ-941E described above. In addition it has a lighted peak reading Cross-Needle SWR/Wattmeter and built-in 300W 50 Ω dummy load. 10" w x 2 1/2" h x 7" d **\$134⁹⁵**

MFJ-962C Versa Tuner III • Covers 1.8-30 MHz and handles 1.5KW PEP. Matches coax, random wire or balanced line (built-in heavy-duty 4:1 balun). Lighted peak and average reading Cross-Needle SWR/Wattmeter with 200/50W and 2000/500W ranges. Six position antenna switch for 2 coax lines (direct or thru tuner), random wire and balanced lines. 10" w x 4 1/2" h x 15" d **\$209⁹⁵**

MFJ-986 Differential-T Tuner™ • Covers 1.8-30 MHz, handles 3KW PEP — tunes most antennas. Broadband T-network with roller inductor and differential capacitor. Lighted peak and average reading Cross-Needle SWR/Wattmeter with 200/50W and 2000/500W ranges. Roller inductor spinner knob with 3-digit turns counter, 6-position antenna switch and external dummy load switches, 4:1 balun. 10" w x 4 1/2" h x 15" d **\$259⁹⁵**

MFJ-989C Versa Tuner V • Heavy-Duty! Covers 1.8-30 MHz, handles 3KW PEP, matches everything — coax fed, random wires and balanced lines. Roller inductor with spinner knob and 3-digit turns counter. Lighted peak and average reading Cross-Needle SWR/Wattmeter with 200/2000W ranges, 50 Ω , 300 watt dummy load, 4:1 balun, 6 position antenna switch, tilt bail. 10" w x 4 1/2" h x 15" d **\$299⁹⁵**

MFJ-921 VHF Tuner or MFJ 924 UHF Tuner • For base or mobile operation — the 921 covers 2-meters and 220MHz, the 924 covers 440MHz only. Handles 300W PEP and matches a wide range of impedances. Built-in SWR/Wattmeter. 8" w x 2 1/2" h x 3" **\$69⁹⁵**



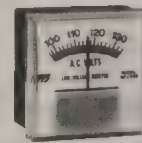
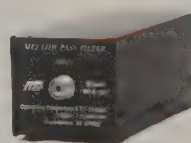
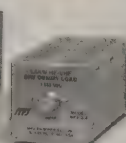
MFJ 931 Artificial Ground (right) • Resonates a random length wire to act as a tuned counterpoise. Improves efficiency and pattern of random wire antennas. Eliminates problems caused by an inadequate ground system. Covers 1.8-30MHz, RF ammeter aids tuning. 7 1/2" w x 3 1/2" h x 7" d. Not for coax fed antennas **\$74⁹⁵**

MFJ-1701 Antenna Switch (left) • 6 positions, 50-75 Ω . Handles 2KW PEP or 1KW CW, 1.8-30MHz. SO-239 connectors. Unused positions grounded for lightning protection. 10" w x 3" h x 1 1/2" d **\$34⁹⁵**

MFJ-1700B Antenna/Transceiver Switch (center) • Select from 1-6 antennas and 1-6 rigs in any combination. Tuner, SWR meter, linear, etc. can be left in line to operate with any combo. 50-75 Ω . Handles 2KW PEP or 1KW CW, 1.8-30MHz. SO-239 connectors. Unused positions grounded. 10" w x 3" h x 1 1/2" d **\$64⁹⁵**

MFJ-1702B Antenna Switch (left/top) • 2 positions + center ground, 50 Ω . Rated to 500MHz with <0.2dB loss. Handles 2.5KW PEP or 1 KW CW. >60dB isolation @ 300 MHz >50 dB @ 450 MHz. Unused terminal grounds for lightning protection..... **\$21⁹⁵** • **MFJ-1702BN** with Type N connectors, good to 1.1 GHz **\$31⁹⁵**

MFJ-1704 Antenna Switch (left/bottom) • 4 position + center ground, 50 Ω . Rated to 500MHz with <0.2dB loss. Handles 2.5KW PEP, 1KW CW, >50dB isolation @ 500MHz. Includes a replaceable lightning protection device that reduces lightning induced surges/static..... **\$59⁹⁵** • **MFJ-1704N** with Type N connectors **\$69⁹⁵**



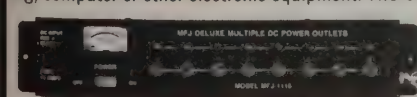
MFJ-250 Versaload (left) • 50 Ω oil-filled dummy load. Low VSWR to 400 MHz. Rated 1 KW CW or 2KW PEP for 10-minutes, 1/2 rating for 20-min.; 200W CW, 400W PEP continuous. 7 1/2" h x 6 1/2" dia. Includes oil **\$49⁹⁵** • **MFJ-250X** without oil. **\$29⁹⁵**

MFJ DRY DUMMY LOADS • Air cooled. Non-inductive 50 Ω resistor in a perforated metal housing handles full rated load for 30-seconds with a de-rating curve up to 5-minutes. **MFJ-260B (HF/VHF)** • 300W, 1-150MHz, 2 1/2" w x 2 1/2" h x 7" d **\$29⁹⁵**

MFJ 264 (UHF) • Up to 650MHz, usable to 750MHz. Rated at 1.5KW for 10-seconds, 100W for 10-minutes. 3" w x 3" h x 7" d **\$59⁹⁵**

MFJ-704 Low Pass Filter (right) • Reduces TVI caused by harmonics generated by 1.8-30MHz transmitters falling in the TV bands. 52 Ω , low insertion loss and high harmonic attenuation. Legal power, SO-239 connectors. 3" w x 3" h x 9" d **\$39⁹⁵**

MFJ-850 Line Voltage Monitor • Plug into any AC outlet — watch for surge or brown out conditions which could cause damage to rig, computer or other electronic equipment. Two-color expanded 95-135V scale with 2% accuracy. 2 1/4" x 2 1/4" x 1 1/2" **\$19⁹⁵**



MFJ-1116 Deluxe DC Power Outlet • Connects to a 12V DC and provides 8 HD 5-way binding posts for powering multiple items. Built-in voltmeter, switch and fuse. RF bypassed, outlets spaced for banana jacks. 13 1/2" w x 2 1/4" h x 2 1/4" d. **\$44⁹⁵** • **MFJ-1112** has 5 posts, no meter or switch **\$29⁹⁵**



MFJ-209 HF SWR Analyzer (left) • Checks 1.8-170MHz antenna system SWR over an entire band without a transmitter or other equipment. Automatic! — set frequency with vernier tuning and read SWR or tune to find lowest SWR point. Frequency counter may be connected for digital readout. Uses 9V battery or 110V AC with MFJ-1312B adapter. 4" x 2" x 6 1/4" **\$99⁹⁵**

MFJ-204B Antenna Bridge (center) • Easily determines if your antenna is too long or too short, measures resonant frequency and resistance to 500 Ω . Built-in resistance bridge, null meter, tunable oscillator-driver for 1.8-30MHz. 4" x 2" x 2" Uses 9V battery or 110V AC with MFJ-1312 AC adapter **\$74⁹⁵**

MFJ-1621 Portable Antenna (right) • Covers 40-10M, handles 200W. Operate from apartments, motels, campsites, vacation spots, etc. Consists of a 54" telescoping whip mounted on a self-standing 6" x 3" x 6" cabinet with a built-in antenna tuner, field strength meter and 50 ft. of coax **\$74⁹⁵**

MFJ-249 SWR Analyzer™ • Covers 1.8-170MHz.. Has built-in 10 digit LCD frequency counter and vernier tuning. Automatic! — connect antenna, set analyzer to frequency and read SWR directly. Monitor SWR changes as you make adjustments. Separate BNC input for use as a frequency counter. 1 ppm 10MHz crystal time base; .01, .1, 1 and 10 sec. gate times. Uses 6 AA cells or 110V AC with MFJ-1312B adapter. 4" w x 2 1/2" h x 6 1/4" **\$179⁹⁵**

MFJ-346 10-digit Frequency Counter • High accuracy measurements up to 600MHz with 10-digit accuracy. Compatible with the SWR analyzers and Antenna Bridge. 1/4"-high contrast LCD digits, four gate times. High accuracy 10ppm 10MHz crystal time base with adjustable calibration. High speed ASIC and custom LCD technology. Uses 9V battery or 110V AC with MFJ-1312 AC adapter ... **\$179⁹⁵**



MFJ-815B SWR/Wattmeter (right) • Covers 1.8-30MHz, lighted Cross-Needle meter simultaneously monitors peak or average, forward and reflected power and SWR at a glance, without adjustments. Two ranges: 200W/2000W forward 50/500W reflected. 7 1/2" w x 4 1/2" h x 3 1/2" d. Meter light requires 12V **\$69⁹⁵**

MFJ-817 • Same as MFJ-815B but covers 144 and 440MHz. Power ranges are 200/20W forward and 50/5W reflected. **\$74⁹⁵**

MFJ-812B VHF SWR Wattmeter (left) • Covers 2-meters and 220MHz. Reads forward and reflected power on 30 and 300W scales and SWR. Reads SWR from 14MHz thru 220MHz and relative field strength from 1 to 220MHz. 4 1/2" w x 2 1/2" h x 3" d **\$29⁹⁵**

MFJ-816 HF SWR Wattmeter • Similar to MFJ-812B but covers 1.8-30MHz. Reads forward/reflected power on 30 and 300W scales and SWR (no field strength). 4 1/2" w x 2 1/2" h x 3" d **\$29⁹⁵**



MFJ CW Transceivers

Single band, CW only, five models available • Compact portable, up to 5 watts output. **Features:** superhet receiver, speaker, vernier tuning, 8-pole crystal filter, RIT, AGC, semi/full break-in, sidetone. 12-15 VDC. 6" w x 6 1/2" x 2 1/2" **\$154⁹⁵ each**

Models and Coverage

9015 (15M) 21-21.2 MHz	9030 (30M) 10.1-10.15MHz
9017 (17M) 18.068-18.110MHz	9040 (40M) 7-7.15MHz
9020 (20M) 14-14.075MHz	

See Price List for Options

MFJ TUNERS

MFJ's world famous 3 KW Versa Tuner V

If you won't settle for less . . . here is the finest 3 KW tuner money can buy!

The MFJ-989C is not for everyone.

However, if you make the investment, you'll get the finest 3 KW tuner money can buy. Here's why.

Massive Transmitting Capacitors

You get two massive 250 pf transmitting variable capacitors with detailed logging scales. They can handle amps of RF current and withstand 6000 RF volts because the plates are smoothed and polished and have extra wide spacing.

Precision Roller Inductor

A precision roller inductor lets you tune your SWR down to the absolute minimum. A 3-digit turns counter plus a spinner knob gives you exact inductance control.

Ball bearings on both the front and back shafts give you a velvet smooth vernier feel. Steel end plates and steel shafts give you lifetime durability.

You won't have arcing problems with this roller inductor. That's



MFJ-989C

because firm springs put considerable pressure on a plated contact wheel for excellent electrical contact.

Wide, low inductance straps are used for high current connections and a new core gives you excellent RF properties for minimum loss.

\$299⁹⁵

Cross-Needle Meter

You get a lighted peak and average reading Cross-Needle SWR/Wattmeter with 200 and 2000 watt ranges. Its new directional coupler gives you accurate SWR and power readings over the entire 1.8 through 30 MHz range.

Super Heavy Duty Balun

You get a super heavy duty current balun for balanced lines. It's made with two giant 2 1/2 inch powder iron toroid cores and wound with teflon wire connected to high voltage ceramic feedthru insulators. It lets you operate high power into balanced feedlines out core saturation or voltage breakdown.

Ceramic Antenna Switch

You get a two wafer 6 position ceramic antenna switch with extra large contacts for trouble free switching.

Plus much, much more

You also get a built-in 300 watt dummy load, full one year unconditional guarantee, flip stand, all aluminum cabinet, tough baked on paint, locking compound on all nuts and bolts. 3 KW PEP. Meter lamp needs 12 volts. Compact 10 3/4x4 1/2x15 inches. Made in the USA.

Don't settle for less--get yours today!

MFJ's Deluxe 300 Watt Tuner



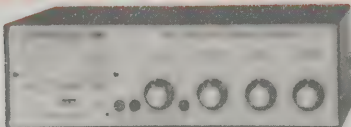
MFJ-949E **\$134⁹⁵** More hams use the MFJ-949E than any other antenna tuner in the world! Why? Because the MFJ-949E gives you proven reliability, the ability to match just about anything and a one year unconditional guarantee.

You get a lighted peak and average reading Cross-Needle SWR/wattmeter, antenna switch, 4:1 balun for balanced lines, 1.8-30 MHz coverage and a full size dummy load that easily handles 300 watts of abusive tune-up power.

The inductor switch is specially designed to withstand the extreme voltages and currents that are developed in your tuner—it's not an underrated off-the-shelf switch that can put you off-the-air.

Each MFJ-949E aluminum cabinet is chemically etched to strongly bond MFJ's tough baked-on paint. You won't find a tougher, longer lasting finish anywhere.

MFJ's New 300 Watt Tuner



MFJ-948 **\$119⁹⁵** If you don't need a dummy load but want all the other features of the MFJ-949D, choose the MFJ-948 for \$129.95.

The MFJ-948 features a peak reading lighted Cross-Needle meter with a built-in lamp switch, one year unconditional guarantee and is made here in the USA.

MFJ's smallest Versa Tuner

MFJ-901B

\$59⁹⁵

The MFJ-901B is our smallest -- 5x2x6 inches -- (and most affordable) 200 watt PEP tuner -- when both your space and your budget is limited. Good for matching solid state rigs to linears.



MFJ'S Super Value Tuner



MFJ-941E **\$99⁹⁵** The new MFJ-941E gives you a 300 watt PEP tuner that covers everything from 1.8-30 MHz -- plus you get a cross-needle meter, antenna switch and balun . . . for an incredible \$99.95. Lamp uses 12 VDC or 110 VAC with MFJ-1312, \$12.95.

Antenna switch selects 2 coax lines (direct or through tuner), random wire, balanced line or external dummy load. 4:1 balun. 1000 volt capacitors. Measures 10-5/8" x 2-7/8" x 7". **2-Knob Differential-T™ Tuner**



MFJ-986 **\$259⁹⁵** The new MFJ-986 Differential-T™ 2-knob tuner uses a differential capacitor to make tuning foolproof and easier than ever. It ends constant re-tuning with broadband coverage and gives you minimum SWR at only one best setting. Handles 3 KW PEP.

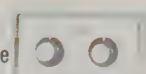
Roller inductor makes tuning smooth and easy. Turns counter lets you quickly re-tune to frequency.

MFJ's peak and average reading cross-needle meter reads forward/reflected power in 200/50 and 2000/500 watt ranges. Meter lamp uses 12 VDC or 110 VAC with MFJ-1312, \$12.95. Current balun reduces feedline radiation and forces equal currents into antenna halves that are not perfectly balanced. It covers 1.8-30 MHz. Get yours today!

MFJ's Random Wire Tuner

MFJ-16010 **\$39⁹⁵**

Operate all bands anywhere with any transceiver with the MFJ-16010. It lets you turn a random wire into a transmitting antenna. 1.8-30 MHz. 200 watts PEP. Ultra small 2"x3"x4".



MFJ's Mobile Tuner

MFJ-945D

\$84⁹⁵

Don't leave home without this mobile

tuner! Have an uninterrupted trip as the MFJ-945D extends your antenna bandwidth so you don't have to stop, go outside and adjust your mobile whip.

Small 8 x 2 x 6 inches uses little room. Lighted Cross-Needle SWR/Wattmeter makes tuning easy while in motion. Has lamp switch. 1.8-30 MHz. 300 watts PEP. Mobile mount, MFJ-20, \$4.95.

MFJ's Versatile 1.5 KW Tuner



MFJ-962C **\$209⁹⁵** MFJ-962C lets you use your bare-foot rig now and have the capacity to add a 1.5 KW PEP amplifier later. It covers 1.8-30 MHz.

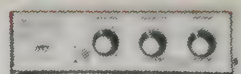
You get MFJ's peak and average reading Cross-needle SWR/Wattmeter. It reads forward/reflected power in 200/50 and 2000/500 watt ranges. Lamp uses 12 VDC or 110 VAC with MFJ-1312, \$12.95.

Plus . . . 6-position antenna switch and teflon wound balun with ceramic feedthru insulators for balanced lines. 10 3/4 x 4 1/2 x 14-7/8 in.

MFJ's VHF or UHF Tuners

MFJ-921 or MFJ-924

\$69⁹⁵



MFJ-921 VHF tuner covers both 2 Meters and the 220 MHz bands. MFJ-924 covers 440 MHz. Built-in SWR/Wattmeter. 8" x 2 1/2" x 3". 2-knob tuning convenient for mobile or base.

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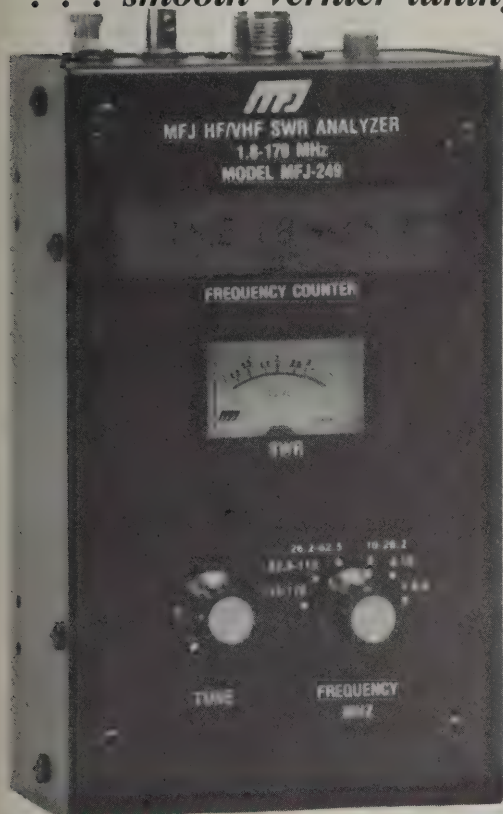
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MFJ HF/VHF SWR Analyzer™

... covers 1.8-170 MHz continuously ... built-in 10 digit LCD frequency counter
... smooth vernier tuning ...



MFJ-249
\$179⁹⁵ MFJ's newest, most versatile SWR Analyzer™ covers more frequencies than any MFJ SWR Analyzer™ – 1.8-170 MHz continuously. It has smooth vernier tuning and a built-in 10 digit, high accuracy, high contrast LCD frequency counter that makes reading SWR in the sun easy.

This wide range MFJ-249 covers all frequencies between 1.8-170 MHz including all ham bands from 160 Meters to 2 Meters, commercial 2-way radio, police, fire, FM broadcast, military, marine and shortwave.

A velvet smooth vernier reduction drive makes it easy to set frequency precisely. It's battery powered and handheld size. You can take it right to your antenna and work on it until it's just the way you want it.

Here's what it does ...

The MFJ-249 SWR Analyzer™ gives you a complete picture of your antenna SWR over an entire band -- without a transmitter, SWR meter or any other equipment!

Reading SWR is automatic. All you do is plug in your antenna, set your MFJ-249 SWR Analyzer™ to the frequency you want and read your SWR -- it couldn't be easier!

10-160 Meter HF SWR Analyzer™

MFJ-207
\$74⁹⁵ If you're an HF man, this compact MFJ-207 HF SWR Analyzer™ will help you build antennas that'll make working DX almost routine.

Just plug in your coax to find the SWR of any HF antenna on any ham band 10-160 Meters. Has jack for external frequency counter. Use 9 volt battery or 110 VAC with MFJ-1312, \$12.95. 7½x2½x2¼ inches.

MFJ Antenna Resistance Analyzer™

MFJ-205
\$84⁹⁵ Need to measure the feedpoint resistance of your antenna at its resonant frequency? Simply plug your coax into the MFJ-205 Antenna Resistance Analyzer™, find your antenna's resonant frequency by tuning the frequency control for minimum meter reading. Then read your feedpoint resistance directly from its calibrated resistance meter.

It's great for designing impedance matching networks for your antenna.

Reads up to 500 ohms RF resistance and covers all ham bands 160-10 Meters.

With a conventional antenna bridge you have to constantly alternate between adjusting the null and frequency controls until you find the best null.

Has jack for external frequency counter. Can be used as an RF signal generator. 7½x2½x2¼ inches. Use 9 volt battery or 110 VAC with MFJ-1312B, \$12.95.

Here's what you can do ...

You can instantly find your antenna's true resonant frequency right at your feedline -- that's something a noise bridge just can't do.

You can shorten or lengthen your dipole or mobile whip and see the effect immediately.

You can monitor how SWR changes as you adjust your beam or vertical -- you'll know right away if you should lengthen or shorten it.

You can see how SWR varies over an entire band ... find 2:1 SWR bandwidths ... adjust mobile antennas in seconds ... find all resonant frequencies of multiband verticals, dipoles and beams ... tune up your antenna tuner without transmitting.

You get three instruments in one

You get three instruments in one ... a low distortion RF signal generator ... a sensitive high accuracy 170 MHz frequency counter ... an SWR Analyzer™

Has BNC connector for use as high accuracy frequency counter. Counter has four gate times, .1 Hz resolution, 1 ppm 10 MHz crystal time base with adjustable calibration.

Use 6 AA cells or 110 VAC with MFJ-1312B, \$12.95 4x2½x6¾ inches.

2 Meter VHF SWR Analyzer™

MFJ-208
\$74⁹⁵ MFJ-208 2 Meter VHF SWR Analyzer™ finds the SWR of any antenna from 138-156 MHz.

Jack for external frequency counter. Use 9 volt battery or 110 VAC with MFJ-1312B, \$12.95. 7½x2½x2¼ inches.

For Commercial VHF Radio

Same as MFJ-208 but for commercial VHF. MFJ-217, \$79.95, covers 30-50 MHz and MFJ-218, \$79.95, covers 150-170 MHz.

600 MHz 10 Digit LCD Counter

MFJ-346
\$179⁹⁵ Add this handy MFJ-346 frequency counter to your station and get high accuracy frequency measurements to 600 MHz with 10 digit precision. Easy-to-read 1/4 inch LCD digits don't wash out in bright sunlight like LEDs.

Compatible with MFJ SWR Analyzers™, Dip Meter™, Antenna Resistance Meter™ and Antenna Bridge™.

Four gate times, .1 Hz resolution, high accuracy 1 ppm 10 MHz crystal time base.

Use 9 volt battery or 110 VAC with MFJ-1312B, \$12.95. 4x1½x5¼ inches.

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1.8-170 MHz HF/VHF SWR Analyzer™

MFJ-209
\$99⁹⁵ If you don't need a built-in frequency counter but want 1.8-170 MHz continuous coverage and smooth vernier tuning, choose the MFJ-209.

It'll help get your antennas in tip-top shape. Same as MFJ-249

without LCD frequency counter. Has jack for external frequency counter. Use 6 AA cells or 110 VAC with MFJ-1312B, \$12.95. 4x2½x6¾ inches.

MFJ Bandswitched Dip Meter™

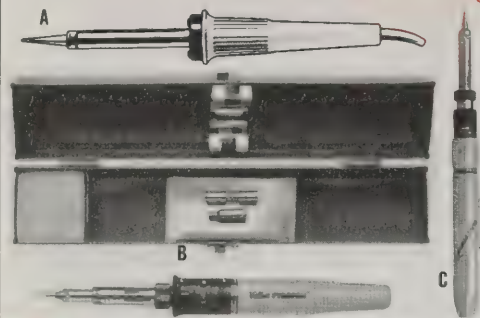
MFJ-203
\$89⁹⁵ The MFJ-203 is a sensitive Bandswitched Dip Meter™ that covers all ham bands from 160-10 Meters. There are no plug-in tuning coils to keep up with, only a single coupling coil.

It's the easiest dip meter you'll ever use -- just tune for a dip. There's no sensitivity control to constantly adjust.

Saves time and takes guesswork out of pruning antennas, winding coils, measuring inductance and capacitance, measuring velocity factor and electrical lengths of coax. Determine resonant frequency of tuned circuits and antennas. Measure Q of coils. Also use as signal generator.

Has detachable coupling coil, dual FET oscillator, op-amp meter amplifier and jack for external frequency counter. Use 9 volt battery or 110 VAC with MFJ-1312B, \$12.95. 7½x2½x2¼ inches.

Soldering Equipment



WELLER Model W-60P (A) • Temperature Controlled 60-Watt pencil-type soldering iron. Tips available for 600°, 700°, or 800°F. Supplied with 1/8" 700°F screw-driver tip. Only 7 1/2" long, 2 1/2 oz. 6 foot cord. 120V AC..... **\$59⁹⁵**

WELLER Model WP-25 (B) • 25-Watt pencil-type soldering iron for work on delicate electronic circuits. 750°F tip temperature. 7 1/2" long, 1 1/4 oz. 4 ft. cord. 120V AC..... **\$37⁹⁵**

WELLER WSTA3 PyroPen® (B) • Lightweight and completely portable soldering iron. Operates for up to 3-hours on a charge of cigarette lighter butane. Soldering temperature control adjustable from 392° to 932°F, and fast heat-up time - ready to solder in just 30-seconds. Supplied with 3 tips for soldering, hot air (1202°F), and brazing..... **\$74⁹⁵**

WELLER WST2 PyroPen® Jr. (C) • Portable mini butane powered soldering iron. Recharges in seconds with regular cigarette lighter butane. Soldering temperature control from 392° to 842°F. Also, hot blow feature (806°F) and torch feature (2372°F). Handy pocket clip..... **\$64⁹⁵**

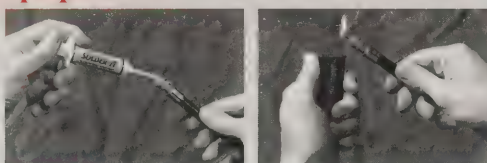
WELLER 7200PK • Compact, lightweight 75W soldering gun. Handles the trickiest soldering jobs. Flat, self-supporting back acts as a convenient rest. Comes with carrying case, extra tip, and solder. 120V..... **\$24⁹⁵**

WELLER WTCPT • Controlled output soldering station. 3 temperature ranges: 600°F, 700°F and 800°F. Lightweight pencil iron is safe for IC soldering. Power unit with unitized on-off rocker switch with indicator light. Storage tray for extra tip and tip cleaning sponge..... **\$109⁹⁵**

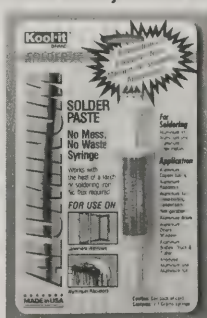
WELLER EC-1002-1 • Compact design. Soldering pencil stand connects to right or left side of unit. Variable temperature diode display, self feeding reservoir. Tray stores extra temperature sensing tips..... **\$189⁹⁵**

WAHL 7540 ISO-TIP® • Cordless soldering iron. Powered by a rechargeable Ni-Cad battery with a capacity of 125 joints per charge. Recharges in 12-16 hours. Tip performance up to 50W and over 700°F. Built-in work light, and "lock-off" switch. Iron, recharging stand and tip..... **CLOSEOUT \$29⁹⁵**

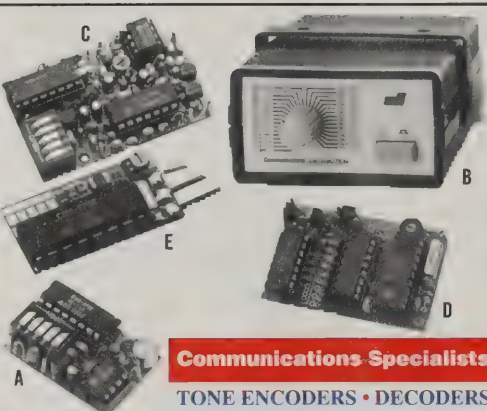
WAHL 7740 ISO-TIP® • Cordless "Quick Charge" model. Contains a premium battery for high-rate charging. Partially discharged unit will return to full capacity within 1-2 hours; complete recharge in 3-4 1/2 hours. Iron, recharging stand and two tips..... **\$34⁹⁵**



SOLDER-IT Silver Bearing Solder Paste • For all electrical soldering (wires, connectors, cables). Contains 2% silver. Works on ferrous and non-ferrous metals including copper, brass, bronze, nickel, platinum, chrome, monel, stainless, galvanized, gold, silver, coated steel, cast iron, black steel, steel. Especially useful for soldering PL-259 connectors and battery pack connections. Non-corrosive, no lead or antimony. Solder small jobs with the heat of a match!.....(SP-7D) **\$6⁰⁰**



SOLDER-IT Aluminum Solder Paste • No flux required. Flows at 395° far below the melting point of aluminum. For soldering aluminum to aluminum and aluminum to almost any other metals. Great for antenna projects! Especially useful for joining dissimilar gauges of metal and for joining aluminum to copper tubing..... (ALP-21D) **\$6⁰⁰**



Communications Specialists

• TONE ENCODERS • DECODERS

COMMUNICATIONS-32P (A) • Dip switch programmable encode provides 32 standard or EIA tone frequencies in order between 67 and 250 Hz. Microminiature - easily fits inside most portable transceivers. 0.9" x 1.3" x 0.4", 6-25 VDC..... **\$28⁹⁵**

COMMUNICATIONS-32SMP (E) • Super small programmable CTCSS encoder for handhelds. Comes standard with 32 EIA tones between 67 and 203.5 Hz. Individual tones are selectable by soldering binary coded jumpers. 0.53" x 1.0" x 0.16", 6-15 VDC..... **\$27⁹⁵**

TE-64 (B) • A multi-purpose encoder providing 64 frequencies which include 32 sub-audible, 19 burst-tone, 8 Touch-Tone and 5 test frequencies. Separate outputs for the high and low frequency ranges. 5 1/4" x 3.3" x 1.7", 6-30 VDC..... **\$79⁹⁵**

TS-32P (C) • Field programmable CTCSS encoder-decoder. DIP switch programmable. All 32 EIA tones from 67-203.5 Hz are included in std. memory. 1 1/4" x 2", 0.4", 6-25 VDC..... **\$57⁹⁵**

DTD-1 (D) • A very small high quality, low cost DTMF decoder. Capable of decoding any one of 5,040 four digit codes to

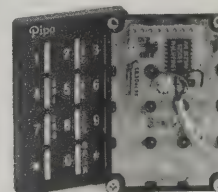
PIPO Communications High Quality DTMF Encoders



- 12-digit or 16 digit pads
- Steel Keys
- Sealed Gold Dome Contacts
- Self-contained
- NO RFI
- Simple 3-wire connection
- Voltage 8.5 to 16V DC
- Temperature -22 to +160 F
- Adjustable level and timing
- Front panel adjustable
- Includes template, hardware and schematic

Small !...

PK-1 - 2.65" h x 2" w x .045" d • **PK-2** - 2.65" h x 2.5" w x .045" d
K-Series option features a built-in keying circuit and relay to automatically key a transmitter or other system. When any key is depressed, a relay closes for 0 to 3 seconds—adjustable with trimpot. **M-Series** option is a special encoder package for mounting any PK-1, PK-1K, PK-2 or PK-2K PIPO encoder to surfaces that are inaccessible from the rear such as walls, mobile dashboards, panels, etc. This package consists of a frame which secures to the mounting surface with the encoder press-fitting into the frame.



See
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P-7 and P-8 Series • Features similar to K-Series but rugged-designed for the demanding Land Mobile Industry. Your choice for radios or systems exposed to harsh or abusive environments. **Smallest!** - miniature electronic design, low distortion and adjustable audio output.

P-7H • 12 key, horiz. format, 1.50" h x 2.16" w x 0.20" d

P-7V • 12-key, vert. format, 2.16" h x 1.50" w x 0.20" d

P-8V • 16-key, vertical format, 2.16" h x 1.50" w x 0.20" d



PP-5 Series • 12-key encoder with sounder to confirm that each key has been fully depressed. Illuminated by two incandescent bulbs. 2.15" h x 3.3" w x 0.5" d, 9-16 VDC.

Replace those aging finals!



EIMAC 3-500Z's

\$183⁰⁰ ea. (U.S. mfg.)

New...

3-500G's

High Dissipation

Graphite plate - Improved Performance

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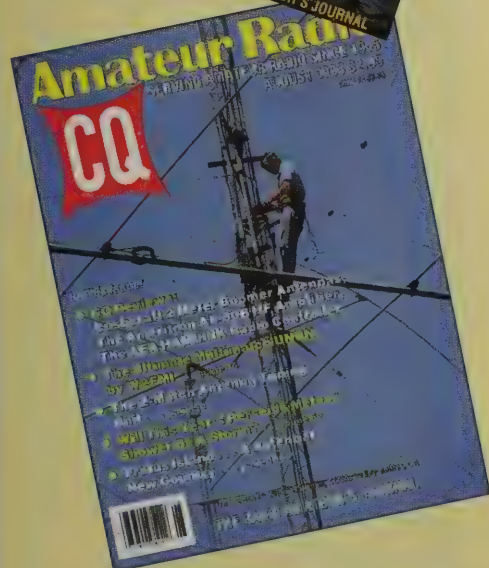
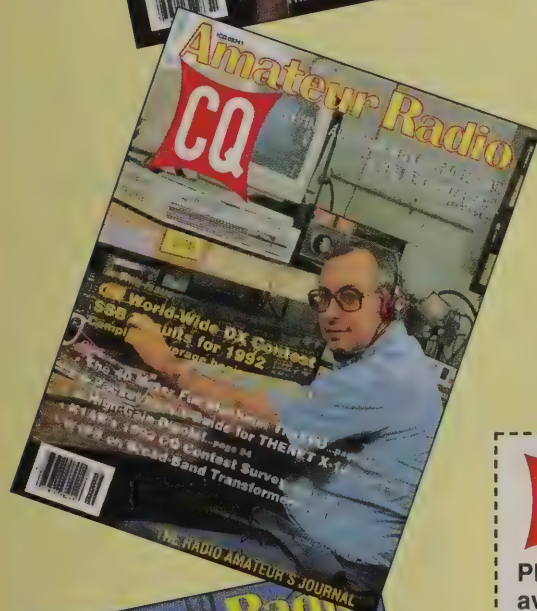
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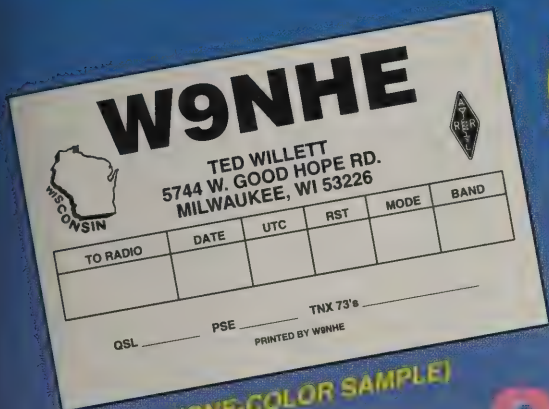
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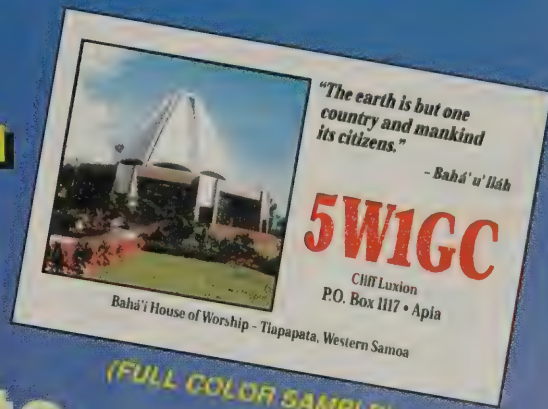
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AMATEUR ELECTRONIC SUPPLY®

Used Amateur Radio Equipment List

★ Fully Service Tested ★ 10 Day Trial ★ 30 Day Guarantee ★ Full Credit within 90 Days on Higher Priced New Equipment ★ Only Clean Gear accepted in Trade ★ The Finest available ... anywhere!

Note: This Used Equipment List reflects what was in our inventory when this catalog was printed. We trade, buy and sell a tremendous amount of used equipment, so this is only a representation of what may be available at any given time. Each store (except Clearwater) has immediate on-line computer access of the entire AES used gear inventory by location—one phone call is all that is needed to see if an item is in stock. The letters after the price indicate which location had the particular item at the time of inventory: **m** = Milwaukee; **w** = Wickliffe; **f** = Orlando; **c** = Clearwater; **v** = Las Vegas. + after item denotes too many accessories to list.

AEA	IC-2PAT 2m HT	279 m	KENWOOD	TS-940S/AT xcvr	1399 mw	ICF-SW7700 Rcvr	139 w	FRG-100B rx w/XF-E	\$529 v
AT-300 ant tuner	IC-1271A 1.2 base	899 m	AT-230 Ant tuner	TS-940S/AT w/VS-1	1439 mw	PRO-80 scan rcvr	299 mw	FRG-8800 rcvr	529 mw
AT-3000 ant tuner	IC-2KL HF amplifier	1359 mc	DG-5 freq disp; 520S	TS-940S/AT w/3 filt	1539 m	SW-1S receiver	219 mf	FT-23R 2m HT/TPP	189 w
Isoloop 10-30 ant.	IC-2400 2m/440	499 w	DSP-100 DSP unit	TS-940S/AT +	1569 m	STANDARD		FT-101B HF xcvr	389 mf
ALINCO	C-2410H w/UT-67	599 mv	MB-430 mobile mt	TS-950SD HF xcvr	1999 mf	CLC-551 case; 558	\$15 w	FT-101E HF xcvr	399 c
DR-119T 2m mobile	IC-2500 440/1.2	669 mw	MC-50 desk mic	TV-506 6m xvtr	149 m	CMU-160 memory exp	19 w	FT-101EE HF xcvr	399 w
DR-590T 2m/70cm	IC-32AT 2m/440 HT	399 w	MC-60A desk mic	VB-2530 2m ampl	79 m	STARTEK		FT-101Z xcvr	449 fc
DR-599T 2m/70cm	IC-4KL HF amp	4499 m	MC-90 desk mic	VC-10 VHF converter	59 w	1500 freq counter	\$99 c	FT-102 xcvr	599 c
DJ-120T 2m HT	IC-271H 2m base	769 c	PC-1 phone patch	VFO-230 remote VFO	149 f	2500 freq counter	129 m	FT-102 xcvr w/CW	629 m
DJ-162T 2m HT	IC-28H 2m xcvr	289 v	PS-30 power supply	VFO-240 remote VFO	119 f	3500 freq counter	169 v	FT-212RH 2m xcvr	279 m
DJ-460T 440 HT	IC-275A 2m xcvr	879 w	PS-31 power supply	MFJ		TEN-TEC		FT-2400RH 2m xcvr	299 v
EDC-34 desk chgr	IC-275H 2m xcvr	1089 wf	PS-430 power supply	207 SWR analyzer	\$69 c	207 ammeter	\$9 m	FT-411E 2m HT	229 w
EHM-36A TTP mic	IC-471A 440 xcvr	599 f	PS-50 power supply	283 spkr/mic	19 w	228 tuner	149 m	FT-4700RH w/tones	449 f
ALPHA DELTA	IC-575H 6m xcvr	999 f	PS-53 power supply	407B keyer	49 w	252M power supply	79 c	FT-6200 440/1.2	559 w
MACC outlet box	IC-725 HF xcvr	629 m	R-2000 receiver	422BX keyer	59 f	252M0 power supply	89 v	FT-712RH w/tone	369 w
AMERITRON	IC-725/UI-7 HF xcvr	649 m	R-2000/CW filter	484C keyer	99 v	255 power supply	119 c	FT-726R w/HF module	719 f
AL-80 HF amp	IC-726 HF xcvr	869 w	R-5000 receiver	815B SWR/wattmeter	39 c	260 power supply	129 f	FT-736R 2m/430	1299 m
AL-84 HF amp	IC-728 HF xcvr	719 m	R-5000 w/B-20	941D tuner	79 c	444 1KW ampl/ps	799 cf	FT-747GX HF xcvr	549 mc
AL-811 HF amp	IC-730 xcvr	489 w	R-5000 w/AM filter	945C tuner	64 c	544 TRITON IV xcvr	379 w	FT-747GX/rem/TCXO	779 mc
ASTRON	IC-735 HF xcvr	719 w	R-5000 w/CW-AM	948 tuner	79 m	561 CORSAIR II xcvr	769 mcf	FT-747GX/rem/TCXO	799 m
RS-10A p/s	IC-745 HF xcvr	589 m	RC-10 rem handset	959B tuner	79 w	561/cw filter/kyr	799 m	FT-757GX HF xcvr	669 mf
RS-20A p/s	IC-751 HF xcvr	799 f	RZ-1 mobile rcvr	962C Tuner	169 v	561 w/2 filters	829 m	FT-757GX MkII xcvr	719 m
RS-35A p/s	IC-751A HF xcvr	959 m	SM-220 scope	982 tuner	179 f	561 w/3 filters	859 m	FT-767GX HF xcvr	1269 mc
BIRD	IC-761 w/FL-52	1439 f	SM-230 scope	1030BX preamp	19 w	562 OMNI-V HF xcvr	1139 v	FT-767GX w/2m	1399 m
4273-100 sampler	IC-765 HF xcvr	1699 f	SP-23 speaker	1214PC interface	109 c	562 w/1.8/5RS-232	1229 c	FT-767GX/2/6/440	1759 m
4431 wattmeter	IC-781 HF xcvr	3999 m	SP-930 speaker	1621 port. antenna	49 m	562 w/282/288	1199 m	FT-901DM HF xcvr	569 f
100C element	IC-901 2m/440	699 mw	SP-940 speaker	1760 20m dipole	29 m	585 PARAGON xcvr	1229 mw	FTV-107R 2m/430	399 c
1000C element	IC-901 w/UT-40	719 m	TH-215A 2m HT	MIRAGE		585 w/258/285+	1319 f	FTV-707 2m xvtr	189 f
250E element	EX-766 interface; 901	119 m	TH-415 440 FM HT	B-108G 2m 80W	\$149 m	585w/282/285 +	1319 m	FV-101Z remote VFO	99 f
2500H element	EX-767 pwr box; 901	19 m	TL-922A HF ampl	B-1016G 2m 160W	239 m	700C microphone	19 m	FV-102DM rem VFO	199 m
COMET	UXR-91A rec. unit	289 m	TM-201B 2m/TU-3	B-1060G 2m 600W	659 m	705 microphone	49 w	FV-700DM rem VFO	79 m
ML-71 ear/mic	UX-39A 220 module	299 m	TM-241A 220 xcvr	NEWTON		960 power supply	149 w	MH-19A2B ear/mic	24 w
CONNECT SYSTEMS	UXS-92A 2m SSB	399 m	TM-441A 440 xcvr	GBS-2000 Sat test	\$249 w	961 dlx power supply	159 c	MW-1 wireless mic	79 f
Private Patch V	MB-5 mount brkt	19 m	TM-2530 2m xcvr	NYE		TRIMBLE		SP-5 speaker	109 v
DAIWA	MB-32 mount brkt	9 m	TM-621A 2m/220	MBVA tuner	\$499 f	Transpak GPS rcvr	\$2499 m	SP-980P spkr/patch	69 m
CS-401G coax switch	MB-49 mount brkt	29 m	TM-701A 2m/440	Phone patch; ICOM	89 v	UNIDEN		YM-24A spkr/mic	24 w
CNW-419 ant tuner	PP-1 phone patch	129 c	TM-721A 2m/440	047-002 patch	89 m	BC-100XLT scanner	\$139 v	YD-148 Desk mic	24 f
DRAKE	PS-15 power supply	119 wc	TM-731A 2m/440	PALOMAR		BC-800XLT scanner	189 mc	YSK-4700 Keyboard	29 w
L-7 2KW HF ampl	PS-20 power supply	139 c	TM-741A 2m/440	PT-340 Tuner-Tuner	\$69 c	HR-2600 10m xcvr	159 m	YSK-1L remote cable	29 w
MN-4 tuner	PS-55 power supply	159 wc	TM-742A w/6m	PANASONIC		HR-2600 10m NEW	199 ⁹⁵ all		
MS-7 speaker	PS-66 24-12V p/s	499 m	TM-941A 440/1.2/2tone	RF-B65 Receiver	\$199 w	YAESU			
P-75 phone patch	PS-70 power supply	12 w	TR-7930 2m xcvr	RF-B600 Receiver	359 w	6M/767 2m module	\$139 m		
PS-7 p/s	R-1 handheld rcvr	359 m	TR-851A 430 Xcvr	SANGEAN		FAS-1-4R selector	69 m		
TR-7 w/accessories	R-100 mobile rcvr	479 m	TR-9000 2m Xcvr	ATS-803 Receiver	\$149 mw	FC-107 ant tuner	129 c		
TR-7A w/aux/fan	R-7000 receiver	829 m	TR-9130 2m Xcvr	ATS-808 Receiver	149 ww	FC-757AT Auto tuner	239 v		
7077 microphone	R-71A receiver	689 mw	TS-130S xcvr	SHURE		FP-107E power sply	129 c		
ETO	R-71A w/FL-32A	719 m	TS-140S xcvr	444 microphone	\$29 m	FP-757GX power sply	149 m		
374A HF amplifier	R-71A w/RC-11	729 c	TS-430S xcvr/1.8	SONY		FP-757HD power sply	219 m		
HEIL	R-72 rcvr w/UT-36	769 v	TS-430S w/2 filt/FM	ICF-2002 receiver	\$159 w	FP-800 HD power sply	239 mw		
BM-10-5T Boomset	R-9000 rcvr/UT-36	3899 m	TS-440S HF xcvr	ICF-2010 receiver	289 w	FRA-7700 indoor ant	39 mw		
HM-10-K5 Hand mic	SM-6 Desk mic	25 m	TS-440S w/SN/CN	ICF-SW7600 Rcvr	179 f	FRT-7700 Tuner	39 wc		
ICOM	SM-8 Desk mic	59 f	TS-440S/AT xcvr						
AD-15 p/s	SP-3 speaker	49 m	TS-440S/AT w/2 filt						
AG-35 UHF preamp	SP-20 speaker	99 f	TS-440S/AT/2 filt/vs						
AG-1200 1.2 preamp	U-400 UHF mobile	399 m	TS-440S/AT/2 filt						
AH-2A auto. tuner	V-100 VHF mobile	399 m	TS-450S w/2 filt						
AT-100 ant. tuner	JRC		TS-520S xcvr						
AT-500 ant. tuner	NRD-525 rcvr +	1029 f	TS-520S w/CW filt						
BP-8 battery	NRD-525/CMK-165	939 w	TS-530S xcvr						
HM-46 spkr/mic	NVA-898 speaker	49 m	TS-820S HF xcvr						
IC-M2 marine HT	ST-3 headphones	55 w	TS-830S HF xcvr						
IC-2AT 2m HT	KANTRONICS		TS-850S/AT HF xcvr						
IC-2AT/BP-8	KT-110 10m xcvr	149 m	TS-930S/AT xcvr						



A portion of the Used Gear Inventory at the Milwaukee Store



Checked out, bagged, ready to go!

This Used Equipment list and the Demo Equipment list on the next page were prepared from an actual inventory taken on 10/26/93. Availability and Prices are subject to change without notice. AES® is not responsible for typographical errors.

Special Prices on New Equipment Open Cartons and Demos

The following is a list of brand New Equipment that has been demonstrated, on display or restocked. The cartons are no longer factory sealed, but each piece has been checked out in our service department and carries a 100% New Warranty. The letter after the price is the location at the time of inventory. m = Milwaukee; w = Wickliffe; f = Orlando; c = Clearwater; v = Las Vegas. Limited quantities - Order Now! **Used equipment policies do not apply.**

		Was Special		ICOM - continued		Was Special		MFJ		Was Special	
AEA				CT-17 level converter		111 ⁰⁰	99 ⁹⁵ m	250 dummy load		\$49 ⁹⁵	\$44 ⁹⁵ m
AEA-FAX facsimile/wire photo prog		\$ 99 ⁹⁵	\$ 69 ⁹⁵ v	GP-22 GPS receiver		699 ⁰⁰	629 ⁹⁵ m	486 Grandmaster keyer		149 ⁹⁵	119 ⁹⁵ m
PC-Pakratt for Windows		129 ⁰⁰	115 ⁹⁵ m	H-18 VHF 16 ch, 5w land mobile HT		399 ⁹⁵	369 ⁹⁵ m	949E 300w antenna tuner		134 ⁹⁵	119 ⁹⁵ v
PCB-88 plug-in packet adapter/IBM ...		164 ⁹⁵	149 ⁹⁵ m	HM-46 mini-speaker microphone		40 ⁰⁰	36 ⁹⁵ m	1020A Indoor active receive antenna		79 ⁹⁵	69 ⁹⁵ v
SWR-121 antenna analyzer		349 ⁹⁵	329 ⁹⁵ m	HM-46L mini-speaker microphone		40 ⁰⁰	36 ⁹⁵ m	1278 multi-mode data controller		249 ⁹⁵	224 ⁹⁵ v
ALINCO				IC-P2AT 2m HT		329 ⁹⁵	299 ⁹⁵ m	1289 5-1/4" multi-com software		59 ⁹⁵	53 ⁹⁵ m
DJ-F1T 2.5w 2m FM HT		\$279 ⁹⁵	\$249 ⁹⁵ v	IC-2AT 2m FM HT		219 ⁹⁵	179 ⁹⁵ m	815B 160-6m cross-needle SWR meter ..		69 ⁹⁵	62 ⁹⁵ v
DR-600T 2m/440 mobile transceiver ...		699 ⁹⁵	575 ⁹⁵ v	IC-2A 2m FM HT		299 ⁹⁵	259 ⁹⁵ m	MIRAGE			
EBP-12NA 5w battery pack		54 ⁹⁵	49 ⁹⁵ v	IC-W2A 2m/440 FM HT		489 ⁹⁵	465 ⁹⁵ f	B-23S 2m 2/30w power amp		\$104 ⁹⁵	\$99 ⁹⁵ w
EBP-16N 7.2V @ 700ma. battery		40 ⁹⁵	36 ⁹⁵ v	IC-2SRA 2m FM HT/25-905 MHz rcvr ..		499 ⁹⁵	449 ⁹⁵ m	B-3030G 2m 30/300w power amp		499 ⁹⁵	449 ⁹⁵ m
EME-4 earphone/microphone		29 ⁹⁵	26 ⁹⁵ m	IC-24AT 2m/440 FM HT		389 ⁹⁵	349 ⁹⁵ m	MOTOROLA			
ALPHA DELTA				IC-3SAT 220MHz FM HT		329 ⁹⁵	289 ⁹⁵ m	H-5057R TRITON marine radio		\$229 ⁹⁵	\$199 ⁹⁵ m
RT 200w Transi-trap lightning protect. \$		32 ⁹⁵	\$ 29 ⁹⁵ m	IC-3230A 2m/440 FM mobile		569 ⁹⁵	519 ⁹⁵ m	NEWMAR			
AMECO				IC-4GAT 440MHz FM HT		359 ⁹⁵	319 ⁹⁵ m	32-12-25A 20-50/13.6v 20A conv		\$ 99 ⁹⁵	\$ 79 ⁹⁵ m
TPA preamplifier/indoor active ant		\$ 69 ⁹⁵	\$ 59 ⁹⁵ m	IC-737 HF xcvr w/tuner/keyer		1379	1315 f	NYE			
AMERITRON				IC-751A HF xcvr w/SW Rcvr		1249	1149 f	047-003 phone patch, 8-pin w/spkr .		\$154 ⁹⁵	129 ⁹⁵ v
ATR-15 antenna tuner		\$359 ⁹⁵	319 ⁹⁵ m	IC-2410H 45/35w 2m/440 FM Xcvr		799 ⁹⁵	719 ⁹⁵ w	PHILIPS			
RCS-4 remote coaxial switch		124 ⁹⁵	112 ⁹⁵ f	IC-U12/460 12 ch UHF land mobile HT ..		229 ⁹⁵	209 ⁹⁵ m	U-105 Light duty rotor		\$ 69 ⁹⁵	\$ 49 ⁹⁵ m
ASTRON				PS-55 power supply		244 ⁹⁵	199 ⁹⁵ m	RANGER			
RS-10A 10A power supply		\$ 69 ⁹⁵	\$ 62 ⁹⁵ v	R-1 100kHz-1300MHz handheld rcvr		479 ⁹⁵	446 ⁹⁵ f	RCI-1000 1w 150MHz HT		\$129 ⁹⁵	\$ 99 ⁹⁵ m
12/115 200w inverter		59 ⁹⁵	49 ⁹⁵ v	R-71A 100kHz-30MHz Rcvr		1049	939 ⁹⁵ m	SANGEAN			
B&K				R-7000 25MHz-2GHz rcvr		1269	1139 ⁹⁵ m	ATS-808 SW receiver		\$189 ⁹⁵	\$169 ⁹⁵ mv
2701 digital multimeter		\$ 49 ⁹⁵	\$ 44 ⁹⁵ m	KANTRONICS				SONY			
2830 multimeter		219 ⁹⁵	199 ⁹⁵ m	D-410 10w 440MHz data radio		\$349 ⁹⁵	\$314 ⁹⁵ f	AN-102 indoor active rcv antenna		\$ 89 ⁹⁵	\$79 ⁹⁵ m
2911 digital multimeter		74 ⁹⁵	64 ⁹⁵ m	Hostmaster 64 software; C-64/C-128 ...		59 ⁹⁵	53 ⁹⁵ m	SW-20 portable SW receiver		99 ⁹⁵	89 ⁹⁵ v
B&W				KM-2400 2400bps board; KPC-4		49 ⁹⁵	39 ⁹⁵ m	SW-55 portable SW receiver		369 ⁹⁵	329 ⁹⁵ m
FL-10/1500/70 low pass filter (72Ω) .		\$ 24 ⁹⁵	\$ 19 ⁹⁵ m	KPC-3 packet TNC		119 ⁹⁵	104 ⁹⁵ m	SW-77 portable SW receiver		499 ⁹⁵	449 ⁹⁵ m
CES				KPC-4 dual port VHF communicator ...		289 ⁹⁵	259 ⁹⁵ m	SW-7600 portable SW receiver		219 ⁹⁵	189 ⁹⁵ m
SDI-50 autopatch/controller		\$489 ⁹⁵	\$439 ⁹⁵ m	KENWOOD				PRO-80 handheld SW receiver		399 ⁹⁵	349 ⁹⁵ m
COBRA				BC-15A desk charger		\$107 ⁹⁵	\$95 ⁰⁰ m	IPS-360 GPS receiver		499 ⁹⁵	449 ⁹⁵ m
AN-8532 answering machine		\$ 49 ⁹⁵	\$ 39 ⁹⁵ f	CD-10 call sign display		49 ⁹⁵	39 ⁹⁵ m	STANDARD			
CP-469S cordless phone		59 ⁹⁵	49 ⁹⁵ f	EMC-1 earphone/microphone		37 ⁹⁵	33 ⁹⁵ m	C-288A 220MHz FM HT		\$349 ⁹⁵	\$299 ⁹⁵ m
RD-5110 radar detector		149 ⁹⁵	129 ⁹⁵ f	HMC-1 headset		29 ⁹⁵	24 ⁹⁵ m	C-5608DA 2m/440 mobile		739 ⁹⁵	659 ⁹⁵ m
PP-110 FAX machine		599 ⁹⁵	449 ⁹⁵ m	KLF-3 cigarette cord w/ filter		23 ⁵⁰	19 ⁹⁵ v	CCR-708A 50-905MHz receiver		719 ⁹⁵	649 ⁹⁵ mv
COMET				MC-48B TTP microphone		75 ⁹⁵	68 ⁹⁵ v	TEN-TEC			
ML-7K ear/microphone; Kenwood		\$ 79 ⁹⁵	\$ 69 ⁹⁵ v	MC-80 8-pin desk microphone		94 ⁹⁵	79 ⁹⁵ m	562 OMNI-V HF xcvr		\$1795	\$1399 m
CONNECT SYSTEMS				PB-1 battery pack		19 ⁹⁵	14 ⁹⁵ v	UNIDEN			
CS-700 Simplex interconnect		\$299 ⁹⁵	\$269 ⁹⁵ mv	R-2000 SW receiver		649 ⁹⁵	584 ⁹⁵ m	BC-147XLT scanner		\$ 99 ⁹⁵	\$ 89 ⁹⁵ m
Private Patch V telephone interconnect .		489 ⁹⁵	439 ⁹⁵ v	R-5000 SW receiver		899 ⁹⁵	829 ⁹⁵ f	BC-177XLT scanner		149 ⁹⁵	119 ⁹⁵ f
CUSHCRAFT				RM-1 remote control; TS-850S		53 ⁹⁵	47 ⁹⁵ m	BC-760XLT scanner		249 ⁹⁵	219 ⁹⁵ v
LAC-4 blitz bug lightning arrestor		\$36 ⁹⁵	\$ 31 ⁰⁰ v	RZ-1 .5-905 MHz AM/FM 12v rcvr		499 ⁹⁵	449 ⁹⁵ f	BC-800XLT scanner		219 ⁹⁵	199 ⁹⁵ m
DIAMOND				TH-27A 2m FM HT		289 ⁹⁵	269 ⁹⁵ w	HR-2600 10m transceiver		199 ⁹⁵	179 ⁹⁵ mf
X-500HNA HD 2m/440 base antenna \$232 ⁹⁵		\$232 ⁹⁵	\$206 ⁹⁵ m	TH-28A 2m FM HT		309 ⁹⁵	279 ⁹⁵ f	YAESU			
X-6000A 2m/440/1.2 base antenna		189 ⁹⁵	169 ⁹⁵ m	TH-225A 5w 2m FM HT		349 ⁹⁵	314 ⁹⁵ w	FAS-1-4R remote antenna selector		\$119 ⁹⁵	\$109 ⁹⁵ m
GRUNDIG				TH-47A 1.5w 440 HT		249 ⁹⁵	224 ⁹⁵ mf	FC-757AT automatic antenna tuner		449 ⁹⁵	399 ⁹⁵ v
YB-230 SW portable receiver		\$129 ⁹⁵	\$114 ⁹⁵ m	TH-78A 2m/440 FM HT		449 ⁹⁵	399 ⁹⁵ m	FRA-7700 indoor active rcv antenna		49 ⁹⁵	39 ⁹⁵ m
HEIL				TM-732A 2m/440 FM mobile		579 ⁹⁵	519 ⁹⁵ m	FT-26/25 2w 2m FM HT		249 ⁹⁵	224 ⁹⁵ m
BM-10-5K boom mic/headset; Kenwood .		\$85 ⁹⁰	\$69 ⁹⁵ m	TS-140S HF xcvr		889 ⁹⁵	809 ⁹⁵ f	FT-415 2w 2m FM HT		309 ⁹⁵	274 ⁹⁵ mf
BM-10-5T boom mic/headset; TenTec		85 ⁹⁰	69 ⁹⁵ m	TS-450S/AT HF xcvr w/sw rcvr/tuner ...		1249	1179 m	FT-767GX HF transceiver		1699	1599 w
ICOM				TS-690S HF xcvr /6m		1369	1299 w	FT-5200 2m/440 mobile		639 ⁹⁵	579 ⁹⁵ v
BP-110 battery case; P-series		\$20 ⁰⁰	\$17 ⁹⁵ m	TS-790A 2m/440 all mode xcvr		1799	1699 m	G-5400B azimuth/elevation rotator		479 ⁹⁵	429 ⁹⁵ v
BP-84 7.2v 1000ma battery		87 ⁰⁰	77 ⁹⁵ m	TS-850S/AT 9 band xcvr/tuner		1749	1649 mf	MW-1 wireless remote microphone		104 ⁹⁵	89 ⁹⁵ m
BP-90 alkaline case; S-series		\$ 20 ⁰⁰	18 ⁰⁰ m	TS-950SDX deluxe 9 band HF xcvr		3749	3599 mf				
CP-12 cigarette cable w/filter		21 ⁰⁰	19 ⁰⁰ m	UT-50S 6m module; TM-741A/742A		299 ⁹⁵	269 ⁹⁵ m				
CP-13 cigarette cable w/filter		21 ⁰⁰	19 ⁰⁰ v								



AES® Store Locations

Phone

Toll Free

FAX

m= Milwaukee, WI	53223; 5710 W. Good Hope Road	(414) 358-0333	1-800-558-0411	(414) 358-3337
w= Wickliffe, OH	44092; 28940 Euclid Avenue	(216) 585-7388	1-800-321-3594	(216) 585-1024
f= Orlando, FL	32803; 621 Commonwealth Avenue	(407) 894-3238	1-800-327-1917	(407) 894-7553
c= Clearwater, FL	34625; 1898 Drew Street	(813) 461-4267		(813) 443-7893
v= Las Vegas, NV	89106; 1072 N. Rancho Drive	(702) 647-3114	1-800-634-6227	(702) 647-3412

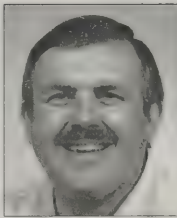
**Your
Friends at
AES®
Milwaukee**



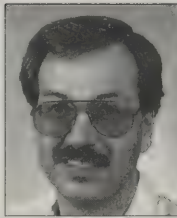
RAY K9KHW



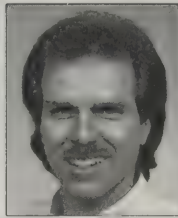
GARY W9NR



RON W9VRY



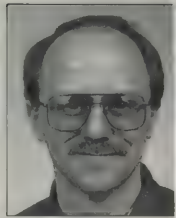
DALE N9BRX



JEFF N9EDQ



PAUL W9KHO



JIM W9LSR



DICK KE9QU



EMIL N9BF



MIKE N9LBQ



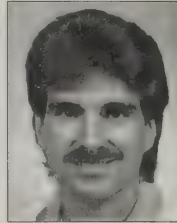
JOHN AB9G



CHRIS N9LBS



TOM N9EAW



PAT



STEVE



ANTONE



CARLENE



ANGELA



ANDREW



MILES K9HMQ



RUSS WB9PAS



JOHN N9COB



JIM WB6JNN



BARBARA N9RSZ



CAROL



ARLENE



PEGGY WB9RWV



JOYCE



MARY



ANITA



KATHY



ELIN K9YHE



JACK N9QLG



TED W9NHE



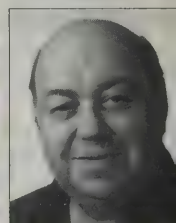
JOHN



JIM



BERNIE



DAVE WB8BAG (Mgr)



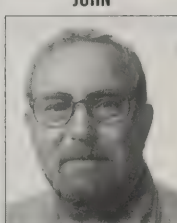
ED N8FIN



PHIL WD8AAN



BOB WB8WEN



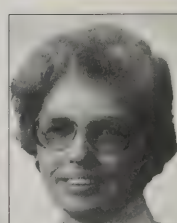
BEN AA8AH



SAM N8UZN



JOHN WA8PKB



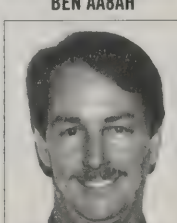
NANCY



GRANT K4IQW (Mgr)



JIM N4LIO



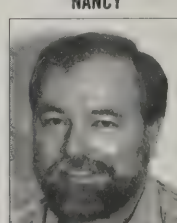
STUART N4IPX



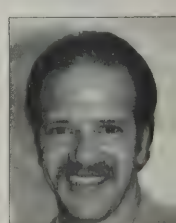
BRUCE WD4HIM



NATHAN KN4BJ



RODNEY KD4TVY



RICK



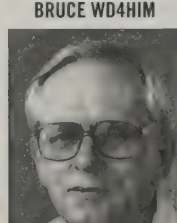
EDDIE KD4RAZ



GIL K4ISK



CHARITY



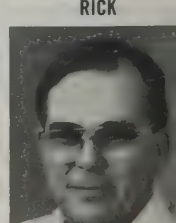
LEN K4BDP (Mgr)



BILL WA9RDA



VICTOR N4COU



DON KA2KDP



SQUEAK AD7K (Mgr)



TOM N7GBJ



HAROLD AA7UL



BOBBY N7XE



BOB KG7D



RICHARD KG7QK



AES Open Houses...lots of Fun and Prizes!



A typical Open House at AES-Milwaukee...what a crowd!



Rod Sherman KB9ECA picks up Grand Prize from Standard's Roger Wayman.



Tom, K9TV accepts prize and a big smile from our Barbara, N9RSZ



Ted, W9NHE (right) awards Gift Certificate to Bert, W9ZGX



Harry, W4DLL (right) – all smiles, picks up prize from Len, K4BDP



Joyce presents prize to a happy Terry, KA9RFM



Barbara, N9RSZ presents prize and congratulations to Robert, KA9NRH



Another winner! Joyce delivers prize to Warren, K9IZV



Lucky 12 year old Wendi starts out right with the Grand Prize.



AMATEUR ELECTRONIC SUPPLY (AES) was founded in 1957 by W9DIA, Terry Serman (*inset*). In those days Terry was known as the King of Traders! – as evidenced by the above photos which show his store sometime in the late 50's to early 60's. Can you recognize

any of the equipment? Through the decades and into the 90's AES has continued the Ham tradition of taking trade-ins, and providing you with the finest used equipment– anywhere!

AMATEUR ELECTRONIC SUPPLY®

Milwaukee, WI • Wickliffe, OH • Orlando, FL • Clearwater, FL • Las Vegas, NV

1-800-558-0411

1-800-321-3594

1-800-327-1917

1-813-461-4267

1-800-634-6227

AES®

OVER 35 YEARS OF HAM EXPERIENCE

5 Convenient Store Locations • Nationwide



WICKLIFFE OHIO



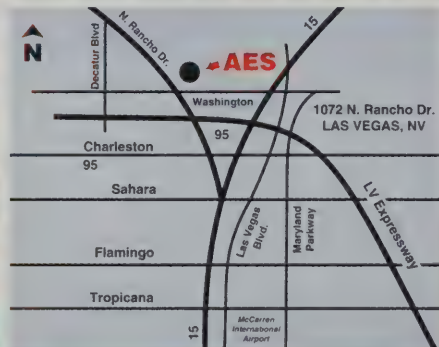
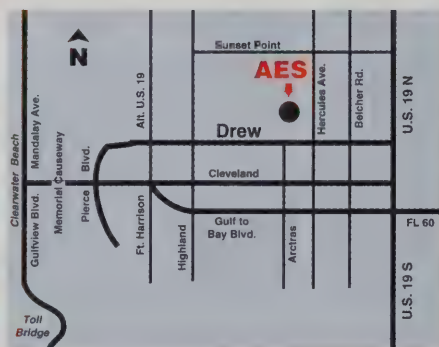
ORLANDO FLORIDA



CLEARWATER FLORIDA

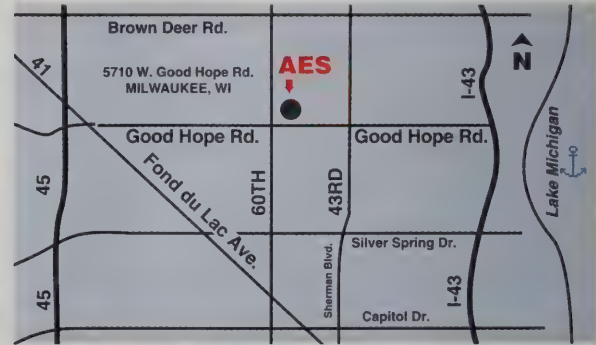


LAS VEGAS NEVADA



MILWAUKEE WISCONSIN

This entire building which has over 50,000 sq. ft. of space contains the **AES®** Main Corporate offices and Computer Center. Included are the Mail Order, Advertising and Service Departments. The large showroom and sales area features an extensive display of the latest Ham Equipment and other electronic goodies, and there's plenty of parking for customers. This structure was specifically designed to function as an efficient Mail Order operation with a huge warehouse that provides plenty of space for large inventories. For our customers this means fewer backorders and delays in filling orders. In fact, we can usually give *same day* service on most Mail or Telephone orders.



AMATEUR ELECTRONIC SUPPLY®

Locations • Local Phones • Toll Free Phones • FAX

Milwaukee, WI

5710 W. Good Hope Road 53223 FAX
(414) 358-0333 • (800) 558-0411 • (414) 358-3337

Wickliffe, OH

28940 Euclid Avenue 44092 FAX
(216) 585-7388 • (800) 321-3594 • (216) 585-1024

Orlando, FL

621 Commonwealth Avenue 32803 FAX
(407) 894-3238 • (800) 327-1917 • (407) 894-7553

Clearwater, FL

1898 Drew Street 34625 FAX
(813) 461-4267 • No Toll Free # • (813) 443-7893

Las Vegas, NV

1072 N. Rancho Drive 89106 FAX
(702) 647-3114 • (800) 634-6227 • (702) 647-3412

Hours • Mon-Fri 9-5:30; Sat 9-3



Main Store Display Area



Paul and Don in Video and Camcorder Display Area

What is Audio Plus ? . . .

It's the *Consumer Electronics Division* of **AMATEUR ELECTRONIC SUPPLY®** with three locations: the main store in Oshkosh, Wisconsin and satellite stores in Fond du Lac and Ripon, Wisconsin.

- Home and Auto Hi-Fi Stereo
- Portable Sound • Big Screen TV
- Video Cameras • Camcorders
- Cellular telephones • Scanners
- Radar Detectors . . . more!

Sales • Service • Installations

Special Offer to all **AES® Ham Customers**

Your purchase of over \$200⁰⁰ worth of merchandise sold by **Audio Plus** may qualify for an extra 5-10% off of already Low Discounted Prices.

Call **Toll Free** to Don or Paul at Audio Plus to discuss availability and price.

Note: Some Audio-Video manufacturers will not allow mail order sales of their products. Audio Plus will adhere to any policies in that regard. In some cases you must come into the store to make your purchase.

Authorized Dealer for . . .

**SONY • JVC • BEL • PANASONIC
POLK AUDIO • CARVER • QUASAR
ROCKFORD FOSGATE • MITSUBISHI
FISHER • MTX • TECHNICS • ECLIPSE**

AUDIO PLUS

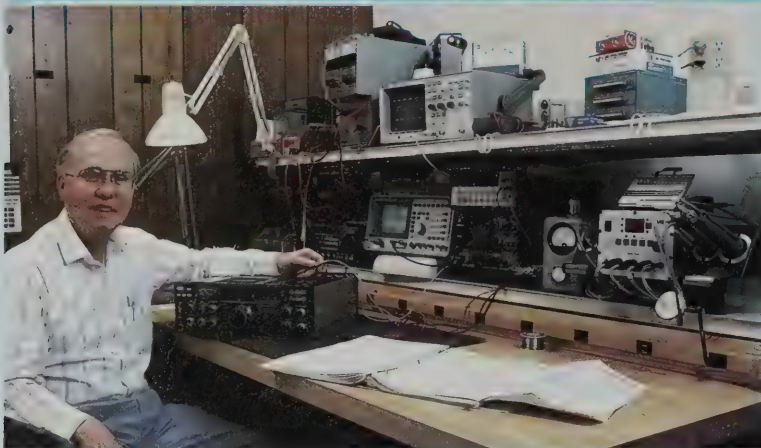
312 N. Koeller • Oshkosh, WI 54901

Phone: (414) 235-8934

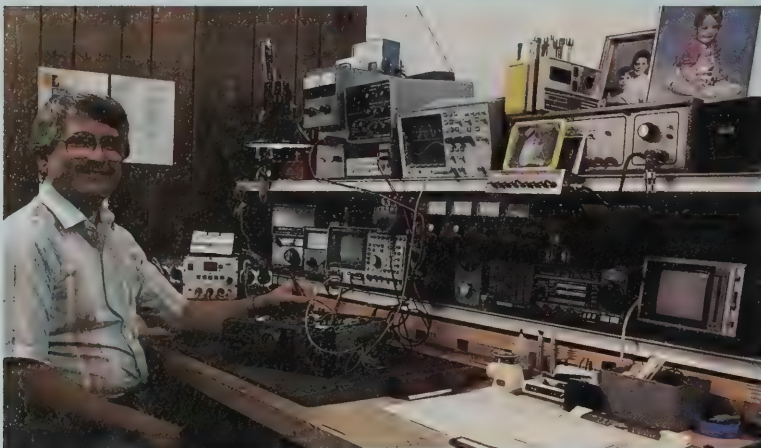
Toll Free: (800)-462-9489

FAX: (414) 235-3204

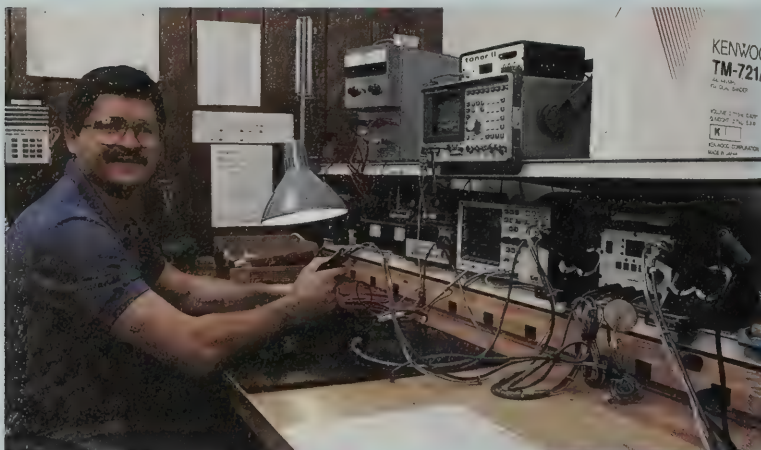




MILES K9HMQ • Service Manager



RUSS WB9PAS • Service Technician



JOHN N9COB • Assistant Service Manager



JIM WB6JNN • Service Technician

We're a Full Service Dealer! • Unlike other dealers, when you purchase a new radio from us, our Service Department is able to provide you with outstanding Technical Service .

If you have a problem, we are determined to keep you on the air! To enforce this, we offer *priority* warranty service on all new radios that we sell. You can be assured that if your new radio fails within 10 days after receiving it, it will be repaired *promptly*, or we'll *replace it*. If failure occurs after the 10 day priority period, it will be repaired under our shop's "*warranty repairs first*" policy, which will get you back on the air with a minimum delay.

Technicians • Currently, we have seven! Four are shown here at work in their shops in Milwaukee. In addition, we have John WA8PKB in the Wickliffe Ohio store, Gil K4ISK and Bob KG7D in Las Vegas.

Experience • These technicians are all *factory trained* on the major brands (ICOM, YAESU, KENWOOD), and others. They have more than 70 years of cumulative experience in the ham service field and are FCC and NABER certified.

We're Equipped to do the job! • Each shop uses the *state-of-the-art* Hewlett Packard 8920A test set, which replaces several pieces of conventional test equipment. It combines twenty-two different instruments including a *spectrum analyzer, tracking generator, digital scope, distortion and SINAD meter, all mode signal generator, frequency counter and more!* It's highly stable, very accurate and helps speed repairs because it's *I-BASIC computer* allows the technicians to store custom test parameters for equipment that they frequently service. We also use H-P's digital scopes and DVM's, plus we have the latest in *high-tech* soldering stations for work on the latest delicate surface mount technology.

Repairs • Whether your purchased from us or not, we can extend our professional technical service to your *out-of-warranty* late model ham gear. This is on a time available basis, and provided that service parts are still available. To make arrangements, call the AES Service Department in Milwaukee at 414-358-0333; ask for Miles or John.

Labor Rates • Our rate for out-of-warranty service is \$48.00 per hour. **Note:** there is a \$68.00 *minimum* charge for service on HF/VHF base stations, and a \$51.00 *minimum* charge on VHF mobiles, handhelds and accessories.

Policies and other Information • See Page 158, also see page 157 for major manufacturer's warranty information and telephone numbers

Manufacturer Phone Numbers & Warranty Information

AEA

2006 196th St. SW Units O & P
Lynnwood, WA 98036

Service/Tech Support: 206-775-7373

Sales: 206-774-5554

Upgrade Hot Line: 206-774-1722

Literature Request Line: 800-432-8873

FAX: 206-775-2340

Limited Warranty: 1 year

ALINCO

438 Amapola Avenue, #130
Torrance, CA 90501

Customer Service: 310-618-8616

FAX: 310-618-8758

Limited Warranty: 1 year parts and labor. Within 15 days of purchase, extended 1 year parts and labor warranty available from **ALINCO**.

AMERITRON

921 Louisville Road
Starkville, MS 39759

Shipping:

116 Willow Road
Starkville, MS 39759

Customer Service: 601-323-8211

FAX: 601-323-6551

Limited Warranty: 1 year on all products except 2 years on AL-80B. All tubes are guaranteed by the respective tube manufacturers.

COMET (NCG)

1275 N. Grove St • Anaheim CA 92806

Customer Service: 800-962-2611

FAX: 714-630-7024

Limited Warranty: 90 days

CUSHCRAFT Corporation

P.O. Box 4680 • Manchester, NH 03108

Telephone: 603-627-7877

FAX: 603-627-1764

Limited Warranty: 1 year against material defects and workmanship.

HUSTLER

One Newtronics Place
Mineral Wells, TX 76067

Customer Service: 817-325-1386

FAX: 817-328-1409

Limited Warranty: 1 year

KANTRONICS, Inc.

1202 E. 23rd St.
Lawrence, KS 66046

Product Information: 913-842-7745

Service/Tech Support: 913-842-4476

Hours: 9 A.M. - noon & 2 PM - 5 P.M.

24 hour BBS support: 913-842-4678

(1200-14,400 v.32 bis 8 bits no parity)

FAX: 913-842-2021

Limited Warranty: 1 year, parts/labor.

ICOM AMERICA, Inc.

Corporate Headquarters
2380 116th Avenue NE
Bellevue, WA 98004

Telephone: 206-454-8155

Customer Service Hotline: 206-454-7619

Parts Department: 206-454-8155

Brochure Hotline: 206-450-6088 (msg)

FAX: 206-454-1509

Regional Customer Service Centers

18102 Sky Park South., Suite 52-B
Irvine, CA 92714

Telephone: 714-852-8716

3071 #5 Road, Unit 9

Richmond, British Columbia

Canada V6X 2T4

Telephone: 604-273-7400

Limited Warranty: 1 year parts/labor.

JRC

430 Park Avenue
New York, NY 10022

Customer Service: 212-355-1180

FAX: 212-319-5227

Limited Warranty: 1 Year

KENWOOD U.S.A. Corporation

2201 E. Dominguez St.
P.O. Box 22745

Long Beach, CA 90810

Customer Relations: 310-639-5300

Fax: 310-631-3913

Parts: 800-262-1312 • 310-515-0207

Fax: 310-538-4919

Bulletin Board (Free): 310-761-8284

KENWOOD Service Center East

829 Lynnhaven Parkway, suite 130
Virginia Beach, VA 23452

Customer Relations: 804-340-1702

Fax: 804-340-6809

Parts: 800-637-0388 • 516-483-5742

FAX: 516-483-5904

Limited Warranty: 1 year, parts/labor.

LARSEN

PO Box 1799 • Vancouver, WA 98668

Customer Service: 206-944-7551

Full Warranty: 3 years

MFJ Enterprises, Inc.

P.O. Box 494
Mississippi State, MS 39762

Shipping:

921 Louisville Road
Starkville, MS 39759

Technical Support: 601-323-5869

FAX: 601-323-6551

Warranty: 1 year - "no matter what"

RF PARTS (Diamond Antennas)

1320 Grand Ave. • San Marcos, CA 92069

Customer Service: 619-744-0750

FAX: 619-744-1943

Limited Warranty: 90 days, call for RA#

MIRAGE/KLM

P.O. Box 1000
Morgan Hill, CA 95038

Shipping:

16890 Church Street, Bldg. 14
Morgan Hill, CA 95037

Telephone: 408-779-7363

FAX: 408-779-8845

Limited Warranty: Amplifiers and Wattmeters: 5 years parts/labor
Repeater Amps: 2 years parts/labor
Pre-amplifiers and Antennas: 1 year parts/labor. Power transistors: 1 year.

RF CONCEPTS

1202 E. 23rd St.
Lawrence, KS 66046

Product Information: 913-842-7745

Service/Tech Support: 913-842-4476

Hours: 9 A.M. 12 noon and 2 PM - 5 P.M.

24 hour BBS support: 913-842-4678

(1200-14,400 v.32 bis 8 bits no parity)

FAX: 913-842-2021

Limited Warranty: 1 year, parts/labor.

STANDARD Amateur Radio, Inc.

P.O. Box 48480
Niles, IL 60648

Telephone: 312-763-0081

FAX: 312-763-3377

Limited Warranty: 1 year, parts/labor.

STARTEK

398 NE 38th St.
Fort Lauderdale, FL 3334

Telephone: 305-537-5577

FAX: 305-561-9133

Limited Warranty: 5 years parts, 1 year labor

YAESU U.S.A.

17210 Edwards Road
Cerritos, CA 90701

Telephone: 310-404-2700 or 4828

FAX: 310-404-1210

Limited Warranty: One year, parts/labor

For other In or Out of Warranty
Service Information call the AES®
Service Department at:

414-358-0333

Experienced and Certified technicians on staff, using the latest in techniques and test equipment.

We welcome your repair work!

Note: We are always looking for qualified Service Technicians. For information, call the above number and ask for Miles.

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Policies • Warranties • Other Information . . .

A - NEW EQUIPMENT • In order to guarantee Factory Sealed, Factory Fresh equipment, no free trial or evaluation is offered by AES®. All New Equipment is warranted by the Manufacturer, unless otherwise stated. Authorized returns of merchandise on a timely basis, that is not defective, will be subject to a minimum 10% handling and restocking charge. If you have equipment that appears defective, call our Customer Service Department at (414) 358-0333 concerning the warranty repair procedure or a request for a return authorization. No returns on books, tapes or computer software – if defective, only an exchange will be made.

B - IN-STORE PURCHASES • For a period of 10 days after you purchase a NEW radio or accessory, do not fill out the Warranty Card. During this period, if the item fails, and we can't repair it within a reasonable length of time, we will replace it. To qualify, the item must be in like-new condition, with original carton, all packing materials and the warranty card. Include a photocopy of your invoice.

C - MAIL/PHONE ORDERS • If a NEW radio or accessory fails within 10 days after you receive it, send it back via UPS prepaid. Pack well and include original carton with all packing material, the warranty card, and a photocopy of your invoice. If we can't repair the item and ship it back to you within a reasonable length of time, we will replace it. If the item is out of stock or back-ordered, and you can't wait for the repair, you may request a refund, or credit towards other merchandise. This policy is not applicable to towers, antennas, rotors or cable.

D - USED EQUIPMENT • After the purchase and receipt of USED equipment, there is a 10-Day Trial. During this period, if the equipment you received is unsatisfactory for any reason, you may return it for a refund, less shipping charges – both ways. If there is a problem, repair parts and labor are covered under a 30 Day Warranty. Return the equipment to the store it was purchased from, prepaid. We will correct the defect and return it at no charge. Within 90 days after you receive our shipment of USED equipment, we will allow you Full Trade-in toward Higher Priced NEW equipment. To qualify, the condition of the item must be as it was when you originally received it from us.

E - TRADE-INS • We will take your clean late model SSB or FM gear in trade towards New Equipment shown in this catalog, or we will buy it outright for Cash – write or call for a quote. In order to receive the full value as quoted for your equipment it must be received by us in good electrical and physical condition, free from abnormal wear, modifications, corrosion or smoke residue. The manual and any original accessories that came with the unit must be included. Note: We do not take in hand-helds, data controllers, UHF/VHF amplifiers or antennas.

F - UPS COD ORDERS (\$20 minimum) • COD is available on UPS ground service only. Payment must be made at time of delivery by CASH only. Money orders, personal or certified checks will not be accepted. On UPS Air services, both merchandise and shipping charges must be paid for in advance prior to shipment; credit cards accepted.

G - PRICING • Due to market fluctuations or Special Purchases, we will pass on decreases in pricing to our customers, whenever possible. Sometimes there are increases, so be sure to confirm pricing with your salesperson before ordering. All prices and specifications are subject to change without notice, and we are not responsible for typographical errors or omissions.

H - NO EXPORTS • AES ships only to U.S.A., it's Possessions, APO/FPO, and Canada. We do not respond to foreign mail and/or faxes. **Canadians!** Returned equipment not originally manufactured in the U.S. will be subject to valuation and custom charges, plus custom broker's fees. Check customs before shipping anything to us, including New Equipment Warranty Repairs. AES will not accept any shipments from Canada unless all fees are paid in advance.

H - IN CASE OF DAMAGE • If you receive a shipment and discover damage to it, NOTIFY THE CARRIER IMMEDIATELY. Do Not return merchandise to us until notified to do so by the carrier. Retain all packaging materials (styrofoam peanuts, inner and outer cartons, labeling, etc. for inspection by the carrier – without this, your claim may be denied. With shipments properly packaged (as all our shipments are), the ultimate responsibility for delivery in good condition rests with the carrier.

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Wire Transfer Information

MILWAUKEE • M&I Marshall & Isley Bank, Milwaukee, Wisconsin. ABA #075000051. Further credit to M&I Northern Bank to credit account #10-01-6953 in the name of Amateur Electronic Supply.

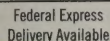
WICKLIFFE • Society National Bank, Wickliffe Branch, 29310 Euclid Avenue; Wickliffe, Ohio 44092. Routing #041001039 for credit to: Amateur Electronic Supply - Acct #30-005-7505

ORLANDO • Barnett Bank of Orlando, Fashion Square Branch, Orlando, Florida. Routing #063103193 for credit to: Amateur Electronic Supply - Acct #1300009536

LAS VEGAS • Bank of America, Decatur Meadows Branch. Routing #1224 000 724 for credit to Amateur Electronic Supply - Acct #230056248

AES Stores	
Milwaukee	(414) 358-3337
Wickliffe	(216) 585-1024
Orlando	(407) 894-7553
Clearwater	(813) 443-7893
Las Vegas	(702) 647-3412
Audio Plus	
Oshkosh, WI	(414) 235-3204

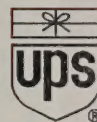
**FAX
Numbers**



AMATEUR ELECTRONIC SUPPLY®

5710 W. Good Hope Road • Milwaukee, Wisconsin 53223

Phone: (414) 358-0333 • Toll Free: 1-800-558-0411 • FAX: (414) 358-3337



— SHIPPING INFORMATION —

METHODS • Unless otherwise specified, orders are shipped via **United Parcel Service (UPS)** or **Air Priority Mail**.

For faster service you may specify *express* methods which include: UPS Next Day Air, 2nd Day Air, 3 Day Select, Federal Express and Express Mail. Please allow sufficient funds for shipping charges—see the chart on reverse side. Those orders with Items exceeding UPS or USPS weight, size or value limits will be shipped via Truck or Air Freight collect.

TRADE-INS • Use a sturdy carton and plenty of packing material for protection. Ship **PREPAID** and **FULLY INSURED**. Canadians inquire about taxes and customs charges before releasing your shipment. Do not use **Bus** or **Parcel Post**. Collect shipments will not be accepted. **AES®** assumes no responsibility for damage in transit or for filing damage claims.

ACCOUNT NO. _____ Date _____

Name _____ Call _____

Address _____

City/State _____ Zip _____

You may telephone me at *(Be sure to show area code)*:

Home # _____ Hours: _____

Work # _____ Hours: _____


SHIP TO (If other than at left):

IF YOU HAVE MOVED since your last order, please show your old address:

[illegible]**FINAL BALANCE DUE (Line 10) to be paid by:**

- ☐ **CHECK OR MONEY ORDER** • For your own protection *do not mail currency*. Send a Bank Check or Money Order. A Personal Check may delay shipping until it clears our bank. Please attach remittance firmly to top of order blank.

For orders being shipped by UPS or Air Priority Mail, etc. please allow a sufficient amount for Shipping charges and Insurance. Any excess amount remited will be promptly refunded. DO NOT remit for Truck or Air Freight shipping charges, they will be collected upon delivery.

-  **COD • (UPS Ground only)** The total cost of Merchandise, Shipping Charges and COD Fee will be collected in Cash or Certified Check upon delivery.

- **MASTERCARD** • **VISA** • **DISCOVER** • **AMERICAN EXPRESS/Optima**

[illegible]

Account Number

Cardholder's Name	Card Expires
-------------------	--------------

Cardholder's Name

Card Expires

If you have a TRADE-IN — CHECK one of the following:

- ☐ Hold this order until you receive and approve my Trade-in.
- ☐ Payment-in-full enclosed. Refund the allowance after my Trade-in is received and approved.
- ☐ Charge the **TOTAL AMOUNT** (line 8) of new merchandise on my Charge Card. Issue credit to my Charge Card when my Trade-in is received and approved.

*** Due to our Branch Store locations, we must collect Sales Tax on shipments into Florida (6%), Ohio (5.75%) & Nevada (7%). Shipping Charges taxable in Wisconsin, Florida & Nevada.**

LINE 1 —	Total Amount of Order	\$
LINE 2 — Subtract here AES Refund Checks, Gift Certificates, Coupons or Special Allowances (if any)		—
LINE 3 — Subtract TRADE-IN Allowance (if any) Enclose mail quotation or reference telephone quote and list Trade-in items.		—
IMPORTANT! Persons having a Trade-in must check one of the choices in the box at the lower left of this Order Blank.		
LINE 4 —	Balance	\$
LINE 5 —	Sales Tax (Wisconsin residents, 5-1/2%)★	\$
LINE 6 —	Estimated UPS or Postal Charges & Ins	+
LINE 7 —	Due AES from previous order (if any)	+
LINE 8 —	Total Amount Due	\$
LINE 9 —	Amount Enclosed	—
LINE 10 —	Final Balance Due (if any)	\$

RESIDENTIAL GROUND SERVICE

NOT TO EXCEED IN LBS	ZONES							
	2	3	4	5	6	7	8	
1	\$ 2.83	\$ 2.98	\$ 3.21	\$ 3.29	\$ 3.38	\$ 3.46	\$ 3.52	
2	2.85	3.02	3.48	3.58	3.79	3.89	4.13	
3	2.95	3.18	3.67	3.82	4.08	4.18	4.50	
4	3.05	3.33	3.79	3.98	4.21	4.40	4.78	
5	3.16	3.45	3.86	4.06	4.38	4.58	4.99	
6	3.27	3.53	3.92	4.13	4.54	4.76	5.13	
7	3.38	3.60	3.98	4.18	4.66	4.95	5.35	
8	3.49	3.66	4.04	4.25	4.79	5.17	5.71	
9	3.59	3.74	4.09	4.34	4.93	5.44	6.12	
10	3.69	3.83	4.15	4.46	5.10	5.77	6.53	
11	3.78	3.93	4.24	4.65	5.34	6.10	6.96	
12	3.87	4.04	4.35	4.84	5.61	6.45	7.38	
13	3.94	4.16	4.46	5.05	5.89	6.84	7.83	
14	4.01	4.29	4.61	5.27	6.18	7.20	8.29	
15	4.09	4.44	4.77	5.50	6.47	7.58	8.74	
16	4.16	4.60	4.93	5.73	6.79	7.96	9.18	
17	4.24	4.75	5.10	5.94	7.08	8.33	9.63	
18	4.30	4.89	5.26	6.16	7.38	8.71	10.08	
19	4.40	4.99	5.43	6.36	7.70	9.08	10.53	
20	4.54	5.15	5.61	6.60	7.99	9.44	10.98	
21	4.69	5.30	5.77	6.83	8.29	9.83	11.44	
22	4.81	5.46	5.95	7.05	8.58	10.19	11.89	
23	4.94	5.59	6.13	7.29	8.89	10.56	12.32	
24	5.06	5.75	6.31	7.51	9.19	10.94	12.79	
25	5.18	5.88	6.50	7.75	9.48	11.32	13.23	
26	5.29	6.05	6.68	7.99	9.80	11.67	13.68	
27	5.41	6.20	6.86	8.21	10.09	12.07	14.15	
28	5.47	6.36	7.04	8.44	10.40	12.44	14.58	
29	5.55	6.49	7.22	8.68	10.70	12.81	15.05	
30	5.65	6.60	7.42	8.93	11.04	13.22	15.55	
31	5.76	6.72	7.65	9.20	11.38	13.62	16.03	
32	5.85	6.86	7.84	9.48	11.72	14.04	16.53	
33	5.96	7.02	8.06	9.75	12.06	14.44	17.02	
34	6.06	7.19	8.25	9.96	12.37	14.85	17.51	
35	6.16	7.40	8.42	10.20	12.67	15.27	17.98	
36	6.24	7.55	8.60	10.45	12.98	15.63	18.45	
37	6.32	7.71	8.80	10.67	13.28	16.02	18.90	
38	6.39	7.85	8.98	10.92	13.60	16.39	19.37	
39	6.46	7.95	9.17	11.14	13.90	16.77	19.82	
40	6.57	8.09	9.35	11.39	14.20	17.16	20.27	
41	6.65	8.20	9.52	11.61	14.51	17.53	20.73	
42	6.74	8.35	9.72	11.86	14.82	17.91	21.18	
43	6.82	8.49	9.90	12.09	15.12	18.30	21.64	
44	6.92	8.66	10.09	12.31	15.42	18.66	22.10	
45	7.00	8.80	10.27	12.55	15.72	19.04	22.56	
46	7.12	8.96	10.46	12.80	16.03	19.43	23.01	
47	7.19	9.07	10.64	13.02	16.34	19.81	23.48	
48	7.24	9.18	10.83	13.26	16.62	20.18	23.88	
49	7.27	9.24	11.01	13.49	16.87	20.53	24.28	
50	7.36	9.30	11.14	13.66	17.09	20.85	24.67	
51	7.40	9.43	11.23	13.79	17.27	21.06	24.96	
52	7.43	9.47	11.29	13.85	17.48	21.27	25.12	
53	7.45	9.52	11.35	13.91	17.48	21.28	25.25	
54	7.49	9.55	11.40	13.98	17.56	21.39	25.35	
55	7.52	9.58	11.44	14.04	17.64	21.49	25.46	
56	7.54	9.61	11.49	14.09	17.71	21.57	25.56	
57	7.56	9.65	11.53	14.17	17.78	21.65	25.66	
58	7.58	9.68	11.57	14.21	17.85	21.75	25.76	
59	7.61	9.72	11.62	14.26	17.94	21.84	25.87	
60	7.63	9.75	11.66	14.32	18.02	21.93	25.98	
61	7.65	9.77	11.72	14.38	18.09	22.03	26.09	
62	7.67	9.79	11.78	14.44	18.17	22.12	26.20	
63	7.69	9.81	11.82	14.51	18.25	22.21	26.32	
64	7.71	9.83	11.87	14.56	18.32	22.32	26.42	
65	7.73	9.85	11.92	14.62	18.40	22.43	26.53	
66	7.75	9.87	11.96	14.68	18.47	22.52	26.66	
67	7.77	9.89	12.00	14.74	18.54	22.62	26.77	
68	7.79	9.91	12.06	14.79	18.62	22.72	26.88	
69	7.81	9.93	12.10	14.88	18.70	22.82	26.99	
70	7.83	9.95	12.14	14.93	18.76	22.92	27.11	

UPS 3 Day Select SM

NOT TO EXCEED IN LBS	ZONES							
	32	33	34	35	36	37	38	
1	\$ 4.37	\$ 4.39	\$ 4.40	\$ 4.42	\$ 4.45	\$ 4.47	\$ 4.49	
2	4.85	4.90	4.95	4.99	5.02	5.05	5.08	
3	5.36	5.43	5.50	5.52	5.55	5.63	5.70	
4	5.85	5.90	5.95	6.00	6.05	6.10	6.14	
5	6.50	6.55	6.58	6.61	6.65	6.70	6.78	
6	7.23	7.30	7.40	7.43	7.47	7.55	7.63	
7	7.95	8.01	8.12	8.21	8.30	8.40	8.48	
8	8.85	8.89	9.00	9.10	9.29	9.46	9.49	
9	9.74	9.78	9.88	10.00	10.23	10.40	10.48	
10	10.46	10.50	10.59	10.75	11.00	11.24	11.46	
11	11.35	11.39	11.48	11.69	11.96	12.23	12.47	
12	12.24	12.29	12.38	12.63	12.93	13.22	13.48	
13	12.95	13.02	13.12	13.39	13.72	14.04	14.32	
14	13.75	13.85	13.95	14.33	14.69	15.03	15.33	
15	14.50	14.60	14.70	15.10	15.50	15.84	16.17	
16	15.10	15.13	15.30	15.92	16.20	17.12	17.34	
17	15.71	15.88	16.05	16.85	17.14	18.13	18.47	
18	16.40	16.58	16.77	17.61	17.92	18.96	19.32	
19	17.09	17.28	17.49	18.36	18.70	19.79	20.17	
20	17.96	18.15	18.37	19.30	19.65	20.80	21.20	
21	18.66	18.86	19.09	20.06	20.43	21.63	22.05	
22	19.52	19.73	19.97	20.99	21.38	22.64	23.08	
23	20.22	20.43	20.69	21.75	22.16	23.47	23.93	
24	20.92	21.14	21.41	22.51	22.93	24.30	24.78	
25	21.61	21.84	22.12	23.27	23.71	25.13	25.63	
26	22.30	22.54	22.85	24.03	24.49	25.95	26.48	
27	23.00	23.25	23.57	24.79	25.26	26.78	27.33	
28	23.68	23.96	24.28	25.55	26.04	27.61	28.17	
29	24.37	24.66	25.00	26.31	26.82	28.44	28.95	
30	25.07	25.36	25.72	27.08	27.61	29.28	29.89	
31	25.76	26.07	26.46	27.85	28.40	30.11	30.70	
32	26.45	26.78	27.18	28.62	29.19	30.96	31.55	
33	27.14	27.49	27.91	29.39	29.98	31.79	32.46	
34	27.83	28.20	28.63	30.14	30.76	32.63	33.32	
35	28.52	28.91	29.34	30.91	31.54	33.47	34.18	
36	29.21	29.62	30.06	31.67	32.32	34.29	34.90	
37	29.90	30.33	30.79	32.43	33.10	35.13	35.88	
38	30.57	31.03	31.50	33.19	33.88	35.95	36.60	
39	31.26	31.73	32.22	33.95	34.66	36.79	37.58	
40	31.95	32.43	32.94	34.71	35.43	37.62	38.43	
41	32.63	33.14	33.66	35.47	36.21	38.45	39.28	
42	33.32	33.84	34.38	36.23	36.99	39.27	40.13	
43	34.01	34.55	35.10	36.99	37.77	40.11	40.90	
44	34.70	35.26	35.82	37.73	38.55	40.93	41.75	
45	35.38	35.96	36.54	38.51	39.33	41.76	42.68	
46	36.08	36.67	37.26	39.28	40.11	42.60	43.53	
47	36.76	37.37	37.97	40.03	40.89	43.43	44.38	
48	37.44	38.07	38.69	40.80	41.66	44.25	45.22	
49	38.12	38.76	39.41	41.55	42.42	45.08	46.06	
50	38.81	39.45	40.11	42.30	43.17	45.89	46.83	
51	39.48	40.14	40.80	43.02	43.91	46.68	47.70	
52	40.15	40.81	41.48	43.73	44.64	47.44	48.47	
53	40.65	41.32	41.99	44.27	45.18	48.01	49.05	
54	41.15	41.85	42.50	44.81	45.72	48.59	49.63	
55	41.65	42.33	43.01	45.34	46.26	49.17	50.20	
56	42.15	42.83	43.52	45.88	46.79	49.73	50.78	
57	42.65	43.34	44.02	46.41	47.33	50.38	51.35	
58	43.15	43.84	44.53	46.94	47.86	50.88	51.93	
59	43.66	44.35	45.04	47.48	48.40	51.45	52.50	
60	44.16	44.85	45.55	48.01	48.94	52.02	53.08	
61	44.66	45.35	46.05	48.55	49.48	52.59	53.66	
62	45.16	45.85	46.57	49.09	50.02	53.17	54.23	
63	45.67	46.35	47.08	49.62	50.56	53.74	54.81	
64	46.17	46.85	47.59	50.15	51.09	54.32	55.39	
65	46.67	47.35	48.10	50.69	51.63	54.89	55.96	
66	47.17	47.85	48.61	51.23	52.17	55.46	56.55	
67	47.67	48.35	49.11	51.76	52.70	56.04	57.12	
68	48.17	48.85	49.62	52.30	53.24	56.61	57.70	
69	48.67	49.35	50.13	52.84	53.78	57.19	58.28	
70	49.17	49.85	50.64	53.37	54.31	57.76	58.86	

AIR SERVICE

NOT TO EXCEED IN LBS	2nd Day ZONES				Next Day ZONES			
	12 ⁴⁸ LBS	14 ⁴⁸ LBS	15 ⁴⁸ LBS	16 ⁴⁸ LBS	22 ⁴⁸ LBS	24 ⁴⁸ LBS	25 ⁴⁸ LBS	26 ⁴⁸ LBS
LETTER	\$ 5.50	\$ 8.75	\$ 8.25	\$ 12.00	\$ 10.50	\$ 11.75	\$ 11.75	\$ 16.00
1	5.75	9.75	9	12.25	10.75	11.75	11.75	16.25
2	6.50	11.00	10.50	21.50	15.25	20.50	21.25	29.50
3	7.25	12.50	11.75	22.25	17.25	22.50	23.50	30.50
4	7.75	13.50	13.00	22.75	18.50	24.00	25.75	31.25
5	8.50	14.75	14.25	23.50	20.00	25.50	27.75	32.25
6	9.50	16.00	15.50	24.50	21.75	27.00	29.50	33.50
7	10.75	17.25	16.75	25.75	23.50	28.50	31.25	35.00
8	12.00	18.50	18.00	27.00	25.25	30.00	33.00	36.50
9	13.25	19.75	19.25	28.25	27.00	31.50	34.75	38.00
10	14.50	21.25	20.50	29.50	28.75	33.00	36.50	39.25
11	15.50	22.25	22.00	30.50	30.00	34.50	37.75	40.75
12	16.75	23.50	23.50	31.75	31.25	36.00	39.00	42.25
13	18.00	25.00	25.00	33.00	32.25	37.50	40.25	43.50
14	19.25	26.25	26.25	34.25	33.25	39.00	41.50	45.00
15	20.25	27.50	27.25	35.25	34.25	40.50	42.75	46.25
16	21.50	29.00	28.50	36.50	35.25	42.00	44.00	47.50
17	22.75	30.50	29.75	37.75	36.25	43.50	45.25	48.75
18	23.75	32.00	30.75	38.75	37.25	45.00	46.25	49.75
19	25.00	33.75	32.00	40.00	38.25	46.50	47.25	50.75
20	26.25	35.25	33.25	41.25	39.25	48.00	48.25	52.00
21	27.25	36.25	34.25	42.25	40.25	49.50	49.25	53.50
22	28.50	37.50	35.50	43.50	41.25	51.00	50.50	54.75
23	29.75	38.75	36.75	44.75	42.25	52.25	51.75	56.00
24	30.75	39.75	37.75	45.75	43.25	53.25	53.00	57.25
25	31.75	40.75	38.75	46.75	44.25	54.25	54.25	58.50
26	32.75	41.75	39.75	47.75	45.50	55.50	55.50	59.75
27	33.75	42.75	40.75	48.75	46.75	56.75	56.75	61.00
28	34.75	43.75	41.75	49.75	48.00	58.00	58.00	62.25
29	35.75	44.75	42.75	50.75	49.25	59.25	59.25	63.50
30	36.75	45.75	43.75	51.75	50.50	60.50	60.50	64.75
31	38.00	47.00	45.00	54.00	51.75	61.75	61.75	67.00
32	39.00	48.00	46.00	55.00	53.00	63.00	63.00	68.25
33	40.25	49.25	47.25	56.25	54.25	64.25	64.25	69.50
34	41.25	50.25	48.25	57.25	55.50	65.50	65.50	70.75
35	42.50	51.50	49.50	58.50	56.75	66.75	66.75	72.00
36	43.50	52.50	50.50	59.50	58.00	68.00	68.00	73.25
37	44.50	53.50	51.50	60.50	59.25	69.25	69.25	74.50
38	45.50	54.50	52.50	61.50	60.50	70.50	70.50	75.75
39	46.50	55.50	53.50	62.50	61.75	71.75	71.75	77.00
40	47.50	56.50	54.50	63.50	63.00	73.00	73.00	78.25
41	48.75	57.75	55.75	64.75	64.25	74.25	74.25	79.50
42	49.75	58.75	56.75	65.75	65.60	75.50	75.50	80.75
43	50.75	59.75	57.75	66.75	66.75	76.75	76.75	82.00
44	51.75	60.75	58.75	67.75	68.00	78.00	78.00	84.25
45	52.25	61.75	59.75	68.75	69.25	79.25	79.25	85.50
46	53.75	62.75	60.75	70.75	70.50	80.50	80.50	86.75
47	54.75	63.75	61.75	71.75	71.75	81.75	81.75	88.00
48	55.75	64.75	62.75	72.75	73.00	83.00	83.00	89.25
49	56.75	65.75	63.75	73.75	74.25	84.25	84.25	90.50
50	57.75	66.75	64.75	74.75	75.50	85.50	85.50	91.75
51	58.75	67.75	65.75	75.75	76.75	86.75	86.75	93.00
52	59.75	68.75	66.75	76.75	78.00	88.00	88.00	94.25
53	60.75	69.75	67.75	77.75	79.25	89.25	89.25	95.50
54	61.50	70.50	68.50	78.50	80.50	90.50	90.50	96.75
55	62.25	71.25	69.25	79.25	81.75	91.75	91.75	98.00
56	63.00	72.00	70.00	80.00	83.25	93.25	93.25	99.25
57	63.75	72.75	70.75	80.75	84.75	94.75	94.75	100.50
58	64.50	73.50	71.50	81.50	86.25	96.25	96.25	101.75
59	65.25	74.25	72.25	82.25	87.75	97.75	97.75	103.00
60	66.00	75.00	73.00	84.00	89.25	99.25	99.25	105.25
61	66.75	77.00	73.75	86.75	90.75	100.75	100.75	107.25
62	67.50	77.75	74.50	87.50	92.25	102.25	102.25	108.50
63	68.25	78.50	75.25	88.25	93.75	103.75	103.75	109.75
64	69.00	79.25	76.00	89.00	95.25	105.25	105.25	111.00
65	69.75	80.00	76.75	89.75	96.75	106.75	106.75	112.50
66	70.50	81.00	77.50	90.50	98.25	108.25	108.25	113.25
67	71.25	82.00	78.25	91.25	99.75	109.75	109.75	114.25
68	72.00	83.00	79.00	92.00	101.25	111.25	111.25	115.25
69	72.75	84.00	79.75	92.75	102.75	112.75	112.75	116.25
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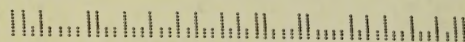
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